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SOCIETE BELGE DE MALACOLOGIE

A new species of *Ericusa* H. & A. Adams, 1858 (Gastropoda: Volutidae) from the bathyal Western Australian waters

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KEYWORDS. Gastropoda, Volutidae, southwest Australia, *Ericusa naniforma* sp. nov.

ABSTRACT. A new endemic species from the southwest waters of the Western Autralian continental shelf is described here and compared with related species of the same genus *Ericusa*.

INTRODUCTION

During the early 1980s the Western Australian Fisheries Department designated an area off Rottnest Island where trawler operators could test and try out their trawling equipment. This was done so as to prepare the boats before proceeding to their registered fishing grounds off Shark Bay and off Exmouth Gulf. As technology in the trawling industry progressed, this practice of tryouts ceased and further trawling operations came to an end.

During those trials many interesting species were brought up including numerous small *Ericusa* which differed from what was known, but were informally identified as 'dwarf *Ericusa papillosa*'.

The genus *Ericusa* is an Australian endemic genus, inhabiting the southern waters below the 30° parallel, characterized by a solid shell, fusiform, medium to large, with a non-coronated elongate spire and regularly convex whorls. The protoconch is globose, deviated at 45° from the axis of the shell and frequently with the initial portion protruded. It includes five species and one subspecies: *Ericusa fulgetra* (Sowerby I, 1825), *Ericusa papillosa papillosa* (Swainson, 1822), *Ericusa papillosa kenyoniana* (Brazier, 1898), *Ericusa sericata* Thornley, 1951, *Ericusa sowerbyi* (Kiener, 1839), and the new species we describe here which has been overlooked for many years.

Abbreviations

WAM: Western Australian Museum, Perth.
ca: circa.

SYSTEMATICS

Family **VOLUTIDAE** Rafinesque, 1815
Subfamily **ZIDONINAE** A. & H. Adams, 1853
Tribe **Livoniini** Bail & Poppe, 2001
Genus ***Ericusa*** A. & H. Adams, 1853

Type species: *Voluta fulgetrum* Sowerby I, 1825

Ericusa naniforma sp. nov.
Figs 1-17

Ericusa papillosa – Wilson, 1994: p. 123, pl. 23, figs 3A-B (only) [(not *Ericusa papillosa* (Swainson, 1822)].

Type material. Holotype in WAM, n° S11656. Length: 62.2 mm, width: 34.2 mm.
Paratypes. Paratype I from off Bunbury, no depth given, 65.6 mm, A. Limpus collection; Paratype II from SW Rottnest -300 m, 65.8 mm, P. Bail collection; Paratype III from off Rottnest, -280 m, 60.1 mm, J. Phillip collection.

Other material. Four specimens in A. Limpus collection: 64.9 mm, 62.2 mm, 60.9 mm, 59.5 mm, trawled -400/450 m off southwest Rottnest island; two in P. Bail collection: 63.6 mm, 60.2 mm, trawled -300 m off SW Rottnest; one in J. Philipp collection: 60.1 mm, trawled - 280 m off Rottnest; two in P. Ignoty collection: 65.5 mm, 68.0 mm, trawled -350 m off Cape Leeuwin; one in E. Monnier collection: 61.4mm trawled -350 m off Bunbury; in WAM collection: 1. n° S80349, *ca* 64.0 mm, [almost complete specimen] NW of Bunbury, 33°S - 114.37°E, HMAS "Diamantina", 17-3-1972, depth 219-221m, 2. S.80347 [2 fragments of body whorl] NW of Bunbury 33°S - 114.38°E, HMAS "Diamantina", 15/3/1972, depth 256m, 3. S11666 [3 fragments] off Three Rocks - 31°6036 S - 114°9850 E - to 31°6103 S - 114.9790°E., RV "Southern Surveyor" depth 275/327m, 19-11-2005, 4. S80348 [fragment only] off Lancelin, 31.04°S - 113.5°E, HMAS "Diamantina", depth 256m, 23.3.1972, 5. S80350 [two fragments] NW of Rottnest Is. 31.45°S - 115.02°E, HMAS "Diamantina", depth 265-276m, 18-3-1972.

Type locality. Off Abrolhos Islands, 28° 48' S - 113° 41' S to 28° 50' E - 113° 42' E. Depth: -416 to -431 m. CSIRO RV "Southern Surveyor". Dec. 2005.

Range. From Houtman Abrolhos [west of Geraldton] to Cape Leeuwin, a rather limited range of 700 km.

Habitat. Most specimens have been trawled between 350-450 m deep. Substrat not given, but most specimens are stained by a rusty layer.

Description. Adult shell very small for the genus, rarely exceeding 65 mm, solid, ovate fusiform with a tapered spire. Surface semi-glossy. Protoconch bulbous, protruded, of 2.5 smooth whorls deviated at 45° from axis of shell, with an average diameter of 7 mm. Transition protoconch - teleoconch gradually marked by occurrence of faint axial striae. Teleoconch of 2.75 gently convex whorls, sculptured by straight; keel-like axial ridges, extending onto the two last whorls, mostly prominent and counted *ca* 45-55 on the last whorl, very attenuated and more numerous on some specimens. Spiral sculpture of close-set faint minute threads extending onto the whole teleoconch, slightly attenuated on the anterior half. Suture simple. Aperture semi-lunar forming an average of 0.72 of total shell length. Outer lip convex, the posterior half thickened and reflected, forming defined canal at adapical end of aperture. Columella almost straight, bearing 4-5 oblique plaits, the adapical the smaller. Fasciole absent. Siphonal notch shallow and wide.
Background color yellowish-cream overlain by light pattern of irregular orange-beige blotches forming two wide spiral bands on mid body whorl and on the anterior third, with remnants of marks on the subsutural zone. Protoconch, aperture and columellar plaits beige. Frequent incrustations of rusty deposits on the crest of axial ribs and on the spiral threads giving irregular revolving rusty bands on some specimens.

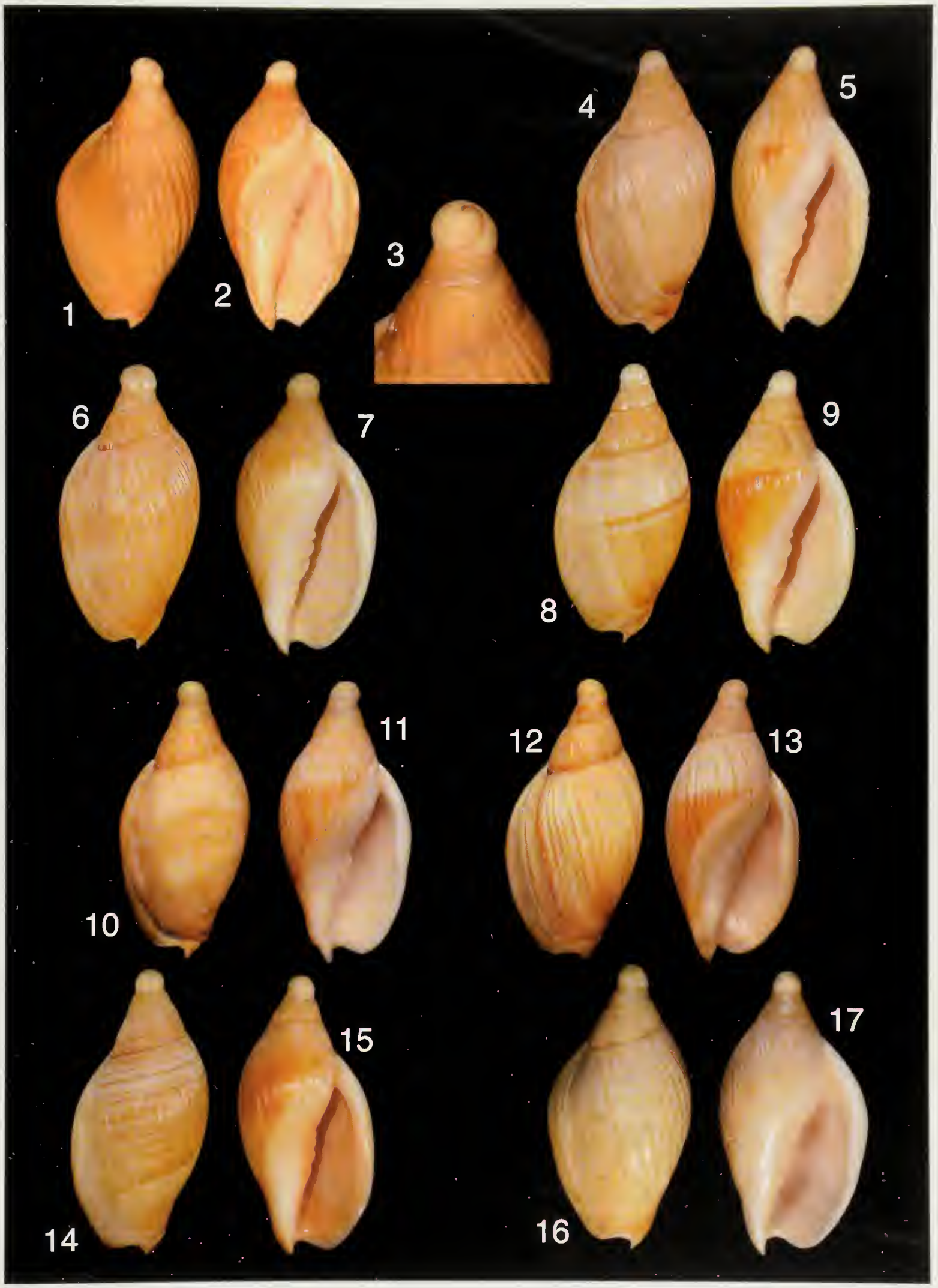
Animal. Unknown.

Discussion. We disregard the other members of the genus *Ericusa fulgetra*, *Ericusa sericata* and *Ericusa sowerbyi* which are of large size, different shape and well-differentiated pattern which preclude any confusion.
By its very specific characters such as the very small adult size and ridged surface, *E. naniforma* must be only compared with the ridged specimens of its closely related species *E. papillosa*.
Two populations of sculptured *E. papillosa* occur along the species range:
The first, *E. papillosa kenyoniana* represents the eastern population extending from Coffs Harbour to the east coast of Tasmania and the coast of Victoria east of Lakes Entrance. Generally considered a valid subspecies, it differs from the southern type species *E. papillosa papillosa* by an elongate shape and the presence of solid axial ribs on the whole teleoconch.
No confusion with *E. naniforma* is possible because of its large size, above 120 mm, a depressed rounded protoconch, a shiny surface with a conspicuous tent-like pattern.
The second ridged form of *E. papillosa* occurs here and there all along the species range from Bass Strait to Augusta, especially at a deeper level (350-450 m) than the type species (50-150 m). It is characterized by a smaller size, a squat shape and by irregular axial ridging on the teleoconch.
There is an obvious resemblance between this form and *E. naniforma*, but differences are constant (see table) and the shells are unmistakable (plate 2, figs 18-21):

	Ericusa naniforma	**ridged dwarf *Ericusa papillosa***
protoconch	bulbous, protruded	rounded, partly immersed
spire	tapered	large, triangular
shape	elongate ovate	rhomboid
outer lip	convex	slightly flattened in the middle
sculpture	fine, regular, keel-like	coarse, irregular, rounded
pattern	hardly visible	well-defined
siphonal notch	relatively narrow	relatively broad

Figures 1-17 ***Ericusa naniforma*** **sp. nov.**

1-3. Off Abrolhos Islands, 28° 48' S -113° 41' S to 28° 50' E - 113° 42' E, 416-431 m, holotype WAM S11656, 66.1 mm.
4-5. Off Rottnest, 64.9 mm A.L. collection; **6-7.** Off Rottnest, 60.9 mm A.L. collection; **8-9.** Off Rottnest, 60.1 mm J. Ph.. collection, paratype III; **10-11.** Off Rottnest, 65.8 mm P.B. collection, paratype II; **12-13.** Off Rottnest, 63.6 mm P.B. collection; **14-15.** Off Bunbury, 65.6 mm A.L. collection, paratype I; **16-17.** Off Rottnest, 62.2 mm A.L. collection.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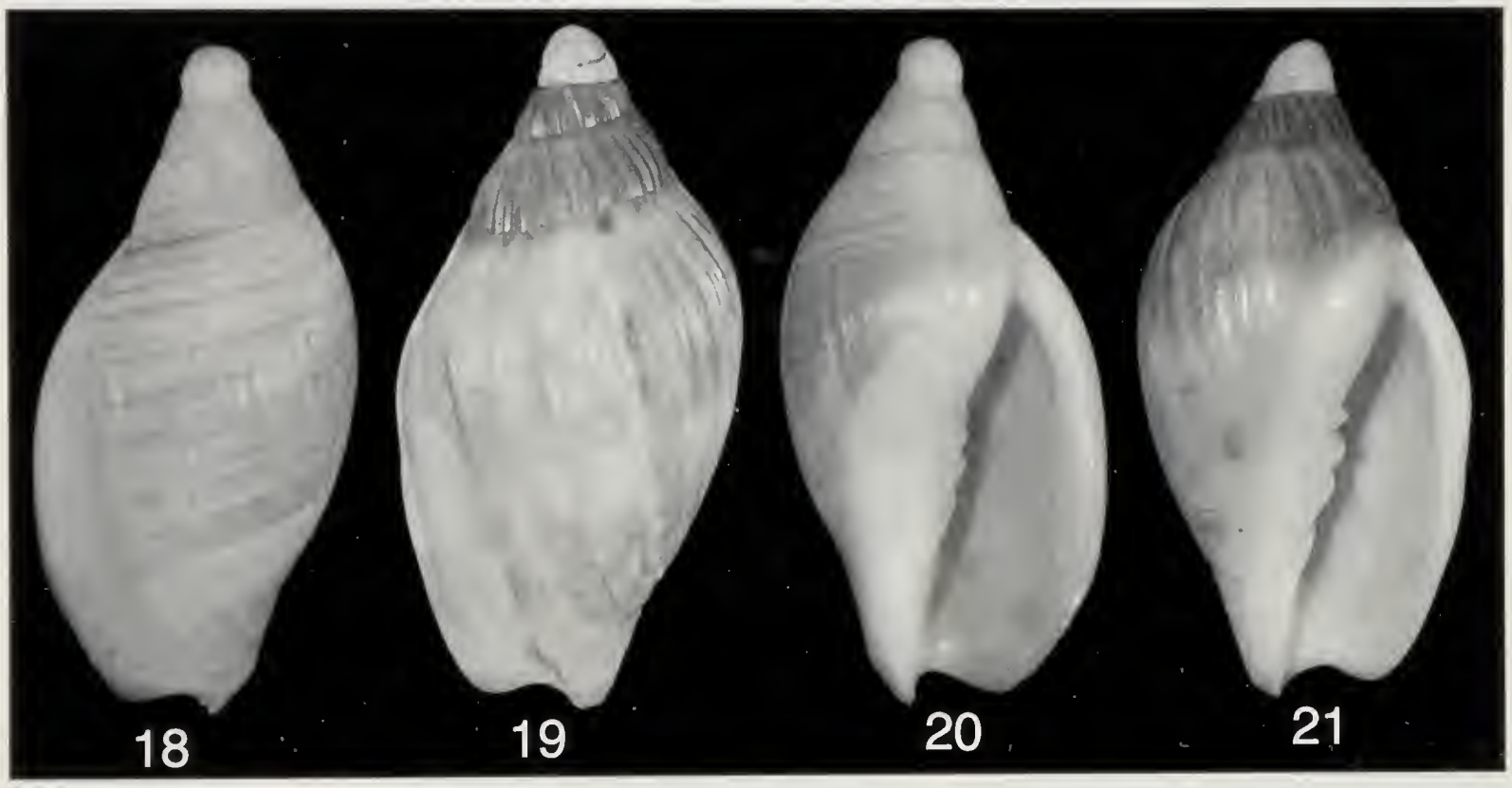
Remarks. This species *E. naniforma* presents very few variations, differing only in the number or strength of axial ridges. In most specimens, the light pattern is hardly visible, covered by a thin rusty layer.
The presence of ridges in *E. papillosa* is connected with the depth all along its range and seems linked with a reduced size along the South Australian coast. These shell characters show evident similarities with *E. naniforma* which probably is subject to the same ecological constraints. These two species are very likely related.
Nevertheless, a biogeographical barrier around the Cape Leeuwin separates them and no intermediate shells have been found there up to now, which allows one to suppose the genetic flow to be interrupted, leading to a separation at specific rank with constant and unmistakable differences.
The currents which flow strongly around Cape Leeuwin make a barrier by themselves and this would be why very few west coast species extend further to the east except several shallower water species of which very few are known. To understand this phenomenon, one can stand at Cape Leeuwin and see the flow of the currents as they swirl around the cape, where it is the meeting of the Circum Polar Antarctic current which flows in a constant easterly direction, and the Leeuwin Current which flows down the W.A. coast. The Leeuwin Current then is forced eastwards, before dissipating in the Great Australian Bight , while the Arctic current continues eastwards to Bass Strait and Tasmania. However, the possibility of sympatry between *naniforma* and dwarf *papillosa* cannot be excluded since specimens possibly similar to *E. naniforma* have been reported found in the far western Great Australian Bight (H. Morrison, pers. com.).

Etymology. Related to its very small size.



Figures 18-21

18 & 20. *Ericusa naniforma* Bunbury, P.B. collection, 65.6 mm; **19 & 21.** *Ericusa papillosa* South Australia, A.L. collection, 56.5 mm.

Acknowledgments. Our appreciation goes to Arron Cosgrove-Wilke of the Western Australian Museum for his assistance and the photographs of the WAM specimens, also to Hugh Morrison for his work on our behalf and for relevant information. We also thank John Phillips and Ian Mattiske for allowing us to photograph specimens from their collections, and Peter Ignoti for supplying photographs of specimens from his collection.

REFERENCE

Wilson, B. 1994. *Australian Marine Shells*. Vol. 2. Odyssey Publishing, Kallaroo: 1-370.

New Caribbean *Lamellilatirus* (Gastropoda: Fasciolariidae: Peristerniinae) with a new record of a previously described species

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KEY WORDS. Mollusca, Gastropoda, Fasciolariidae, Peristerniinae, *Lamellilatirus*, Recent, Caribbean Sea, new species

ABSTRACT. Four new species of *Lamellilatirus* Lyons & Snyder, 2008, *L. eburneus*, *L. lamyi*, *L. dominiquei* and *L. sunderlandorum*, are described and distinguished from each other and from the type species, *L. ceramidus* (Dall, 1889). The new species are from various locations in Guadeloupe, Martinique, Venezuela, Colombia and Honduras in the southern Caribbean Sea. The range of *L. ceramidus*, previously known from Barbados, Colombia, Panamá and Nicaragua, is extended to Puerto Rico.

INTRODUCTION

Lamellilatirus Lyons & Snyder, 2008, was introduced as a monotypic genus to contain *Fusus ceramidus* Dall, 1889, whose radula was revealed by Bullock (1968) to be peristerniine, not fusinine. Unusual features of the shell and radula dictated that a new genus be erected to contain the species. Recent studies of specimens in several private collections have revealed four additional undescribed species which are appropriately placed in *Lamellilatirus*.

Material and Methods

All specimens were acquired from commercial shell dealers or amateur collectors. Animals had been removed and discarded but opercula still accompanied many shells. Some shells had passed through several hands before we obtained them, but most species were represented by several lots obtained from different sources, and data with the lots are in sufficient agreement to instill confidence in general accuracy. Measurements are reported in metric units. Depths of collection, sometimes initially recorded in feet (ft) or fathoms (fm), are converted to meters (m). Shell sizes are reported in millimeters (mm), measured to nearest 0.1 mm with electronic digital calipers; single measures are of shell length (sl; = height), whereas two measures signify shell length and width (sl x w) or a range of shell heights (sl – sl); lv denotes live-taken specimens, dd empty shells.

Abbreviations

Specimens were examined in private collections of Kevan and Linda Sunderland (SC) of Plantation, Florida and the senior author (LC). Dominique Lamy of Guadeloupe, French West Indies, provided several important specimens which he donated to institutional collections. Abbreviations for institutional catalogue numbers are: ANSP, Academy of Natural Sciences of Drexel University, Philadelphia, Pennsylvania; BMSM, Bailey-Matthews Shell Museum, Sanibel, Florida; MNHN, Muséum national d'Histoire naturelle, Paris; UF, Florida Museum of Natural History, Gainesville; and USNM, United States National Museum of Natural History, Washington, D.C.

SYSTEMATICS

Family **FASCIOLARIIDAE** Gray, 1847
Subfamily **PERISTERNIINAE** Tryon, 1881
Genus ***Lamellilatirus*** Lyons & Snyder, 2008
Type species by original designation: *Fusus ceramidus* Dall, 1889, Recent, Barbados.

Remarks. *Lamellilatirus ceramidus* (Figs 1, 2) was previously known by specimens from the southern Caribbean Sea (Barbados, Colombia, Panamá and Nicaragua) in depths of 73-220 m (Lyons & Snyder, 2008). The species has a polished white shell of moderate size with a somewhat swollen spire, broad

axial ribs, reduced or obsolete spiral cords, reduced columellar plicae, internal lirae entire or interrupted as beaded pustules, a slender siphonal process, and numerous axial lamellae on the sutural ramp. The radula was figured by Lyons & Snyder (2008: fig 3a), after Bullock (1968: pl. 8, fig 7). Although *Latirus*-like, the laterals have distinctive rounded cusps near the inner margin, whereas most peristerniines have sharply pointed cusps. The generic diagnosis is modified here to accommodate new species with relatively more slender spires, more prominent spiral cords, less prominent sutural lamellae and more colorful shells.

The only other Caribbean genera of Peristerniinae with conspicuous sutural lamellae are *Polygona* Schumacher, 1817 [type species *Polygona fusiformis* Schumacher, 1817, = *Murex infundibulum* Gmelin, 1791, Recent, Caribbean Sea, by monotypy, *fide* Vermeij & Snyder (2006: 419, 420)] and some *Pustulatirus* Vermeij & Snyder, 2006 (type species *Latirus mediamericanus* Hertlein & Strong, 1951, Recent, tropical eastern Pacific, by original designation). However, both *Polygona* and *Pustulatirus* species generally live in shallower water and their columellar plicae remain conspicuous in mature shells. Shells of *Polygona* are heavier, more compact, and usually have much shorter siphonal processes. Mature shells of *Pustulatirus* have a serrate outer lip formed by extensions of interspaces between spiral cords of the body whorl, whereas shells of *Lamellilatirus* lack labral serrata.

We encountered one specimen that extends the range of *L. ceramidus* northward in the eastern Caribbean. The new record is a 59.0-mm shell taken dead in a fish trap off Mona Island, Puerto Rico, depth 220 fm [403 m] (LC; Figs 3, 4). The specimen represents new depth and size records for *L. ceramidus*. However, the shell was probably carried into the trap by a crab and the specimen may have lived in a lesser depth.

Lamellilatirus eburneus n. sp.
Figs 5-7, 24

Type material. Holotype (43.4 x 16.2 mm), dd, off Isla San Bernardo, Colombia, trawled, depth 150 m, ANSP 450383.

Other material. 1 (24.9 mm), dd, off Islas de Los Testigos, Venezuela, dredged, 195 m, LC.

Distribution. Venezuela and Colombia, southern Caribbean Sea; depth range 150-195 m.

Description. Shell of moderate size for genus, to 43.4 x 16.2 mm, fusiform, slender, with about 10 ½ whorls, elevated spire, elongate siphonal process and scattered sutural lamellae. Protoconch of about 2 ½ whorls, first whorl globose, tip immersed, second whorl not much wider than first, with slightly convex sides and about 4 faint axial riblets near terminus. Teleoconch of about 8 convex whorls separated by deeply impressed suture and sculpted with prominent axial ribs and spiral cords and with sparse axial lamellae scattered on rudimentary sutural ramp; axial ribs of all whorls broad, node-like, extending from anterior suture to posterior sutural ramp; 5 spiral cords on early whorls, of nearly equal size on whorl 1; middle 3 cords becoming stronger on whorls 2-4; all cords strong on whorls 5-7. Body whorl somewhat shouldered, with 2 or 3 very prominent cords at periphery; 2 or 3 more cords diminishing in strength apically and 3 or 4 cords diminishing in strength toward base; surface of spire and body whorl with many fine, axially aligned microlamellae and as many as 6 spiral threads in interspaces between cords; about 12 oblique cords, some separated by fine threads on base and siphonal process. Aperture subovate; outer lip highly arched, thin, crenulated at edge by spiral cords and interspaces of body whorl, inner side of lip with 8 or 9 smooth, emergent lira extending to lip edge; columella gently curved, with about 2 faint folds near anterior end; parietal shield smooth; siphonal canal slender, smooth within, twisted near middle to form small pseudoumbilicus near anterior end. Protoconch and exterior and interior of fresh shell pure white; older shell fading to cream. Operculum and radula unknown.

Etymology. From the Latin *eburneus*, an adjective meaning "ivory-colored," referring to the pure white shells whose colors fade to cream like old ivory as they age.

Remarks. Shells of *L. eburneus* differ from those of *L. ceramidus* by having a relatively taller, more slender spire and more scattered and sparse axial lamellae. The shell surface of *L. ceramidus* is nearly smooth, whereas that of *L. eburneus* has strong spiral cords on all whorls; the two or three large cords crossing the tops of the axial ribs characterize the species. Differences with other species are discussed in accounts that follow.

The 24.9-mm Venezuelan shell is too old and worn to be included as a type.

Lamellilatirus lamyi n. sp.
Figs 8-12, 25

Type material. Holotype (38.3 x 15.2 mm), off Pointe de la Caravelle, east coast of Martinique, French West Indies, depth 250 m, MNHN 25714; paratype (20.6 mm), same data as holotype, ANSP 450384.

Distribution. Known only from type locality off Martinique, French West Indies, depth 250 m.

Description. Shell of moderate size for genus, to 38.3 x 15.2 mm, fusiform, slender, with about 9 whorls, prominent axial ribs and spiral cords, and abundant axial lamellae. Protoconch of 2 elevated whorls, first

whorl smooth, rounded, tip immersed; second whorl not much wider than first; sides slightly convex, with 3-4 very faint axial riblets near terminus. Teleoconch of 7 whorls, each with 6 or 7 rounded, node-like, seldom aligned axial ribs; whorls 1-4 each with 4 spiral cords; 2 middle cords crossing ribs stronger than others; cord bordering anterior suture increasing in strength toward anterior whorls; whorls 5 and 6 with 5 cords, 3 anterior cords stronger. Body whorl with about 11 cords of various strengths; 3 cords at and anterior to periphery more prominent than others; surface of spire and body whorl with many axially aligned micro-lamellae and (sometimes) with 1-3 fine spiral threads between cords. Suture deeply impressed, undulant in accord with ribs and interspaces; sutural ramp bearing many prominent scale-like lamellae on middle whorls (3-5); lamellae less prominent on anterior whorls; base and siphonal process slender, elongate, with 8-10 oblique cords of various strengths extending to truncate tip. Aperture subovate; outer lip thin, highly arched, slightly crenulate, inner side bearing 9-11 low, straight, sometimes discontinuous lirae; several anteriormost lirae beaded. Columella nearly straight anteriorly, arched posteriorly, with small node-like callous on parietal shield and faint undulations suggestive of folds near callous at anterior end. Siphonal canal slender, straight, smooth within, with lamellate inner edge forming distinct pseudoumbilicus near tip. Shell exterior light orange-brown, with lighter hue extending in vague band across ribs of spire; protoconch and shell interior white. Operculum and radula unknown.

Etymology. The name honors M. Dominque Lamy, Baie-Mahault, Guadeloupe, whose collections have enriched our knowledge of Caribbean Mollusca. M. Lamy provided specimens of two species treated in this paper, including both specimens of the species here described.

Remarks. Brown shells of *L. lamyi* distinguish that species from *L. ceramidus* and *L. eburneus*, which have white shells. Spiral cords that cross the ribs of *L. lamyi* are stronger than those of *L. ceramidus* but weaker than those of *L. eburneus*. Sutural lamellae are less densely packed on *L. lamyi* and *L. eburneus* than on *L. ceramidus* but are arrayed over more of the sutural ramp on *L. lamyi* than on *L. eburneus*. The larger shell (holotype) of *L. lamyi* has beaded lirae within the aperture, a feature shared with *L. ceramidus* but apparently not with some other congeners.
The outer lip of the holotype is thin and not fully developed, suggesting that the specimen may be immature and the species may attain somewhat greater size.

Lamellilatirus dominiquei n. sp.
Figs 13-17, 26

Type material. Holotype (29.3 x 11.1 mm), off Cabo de la Vela, Colombia, trawl, depth 200 m, ANSP 450385; paratype (21.4 mm), Saint François, eastern Guadeloupe, French West Indies, depth 200 m; MNHN IM-2012-25.

Distribution. Guadeloupe and Colombia, southern Caribbean Sea, in 200-m depths.

Description. Shell small for genus, to 29.3 x 11.1 mm, fusiform, slender, with about 9 whorls, elevated spire and elongate siphonal process. Protoconch of 2 elevated whorls; first whorl smooth, rounded, with immersed tip; second whorl no wider than first, with 4-5 faint axial riblets near terminus. Teleoconch of 7 convex whorls separated by deep suture and sculpted with prominent axial ribs and spiral cords, and with fine axial lamellae on sutural ramp; first whorl with about 8 small axial ribs, thereafter with 6 prominent, broad, elevated ribs on each whorl, ribs aligned from whorl to whorl on spire, not aligned on body whorl; 3 equal-sized spiral cords on whorl 1, increasing to 4 on whorls 2-4 and to 5 on whorls 5 and 6, 3 middle cords stronger than others; 8 cords on body whorl, 4 crossing tops of axial ribs most prominent; many very fine spiral threads and axially aligned micro-lamellae between cords of spire and body whorl. Suture impressed, undulant in accord with ribs and interspaces; sutural ramp bearing many very thin lamellae overlying faint spiral threads; base and siphonal process slender, elongate, with 8-12 narrow, oblique cords extending to rounded tip. Aperture subovate; outer lip crenulated by cords and interspaces of body whorl; inner side with a few thin, straight lirae. Columella arcuate, smooth except for small node on parietal shield and 2 faint, oblique folds near callous at anterior end; siphonal canal slender, straight, smooth within. Protoconch and shell exterior light brown or tan; larger cords of body whorl darker reddish brown; interior white. Operculum elliptical, gray-brown, with anterior nucleus and many fine, concentric growth increments on outer surface. Radula unknown.

Etymology. The name honors M. Dominque Lamy, Baie-Mahault, Guadeloupe, who provided one of the two specimens used in the description of the species.

Remarks. Shells of *L. dominiquei*, like those of *L. lamyi*, are basically brown but lack the lighter hued peripheral band of the latter species; instead, the three or four strongest cords crossing the axial ribs of *L. dominiquei* are dark reddish brown, especially on the body whorl, providing a conspicuous contrast with the rest of the shell. Compared to shells of *L. lamyi*, those of *L. dominiquei* are also smaller, with a relatively more slender spire and much finer, less numerous sutural lamellae. Both specimens of *L. dominiquei* have thin, immature lips, and it seems likely that fully adult specimens may be larger. However, the number of teleoconch whorls (seven) of *L. dominiquei* is

similar to that of the larger immature shell of *L. lamyi*, so *L. dominiquei* may ultimately prove to be a smaller species.

The brown shell of *L. dominiquei* separates that species from *L. ceramidus* and *L. eburneus*. In addition, *L. ceramidus* has more prominent and abundant sutural lamellae, and its spire is more swollen, the ribs are broader, and the cords more subdued.

Lamellilatirus sunderlandorum n. sp.
Figs 18-22, 27

Type material. Holotype (33.3 mm), dd, off Pulpit Rock, Mangrove Bight, Roatán, Honduras, trap, 270-280 m, ANSP 450386. Paratypes: 1 (32.2 mm), dd, same data as holotype, MNHN IM-2012-26; 2 (35.3 and 18.0 mm), dd, same data as holotype, SC; 2 (27.6 mm, lv; 27.2 mm, dd), off Flores Bay Church, Roatán, trap, 124 m, SC; 4 (19.2 and 11.2 mm, lv; 16.6 and 15.3 mm, dd), off Roatán, shell traps, 200-300 ft [61-91 m], SC; 1 (23.7 mm), lv, off Roatán, baited shell trap, 300 ft [91 m], UF 456795; 1 (18.7 mm), lv, same data, BMSM 17934; 3 (20.8, 17.6 and 15.5 mm), dd, same data, LC; 1 (35.0 mm), dd, off north coast of Roatán, dredge, 350 m, SC.

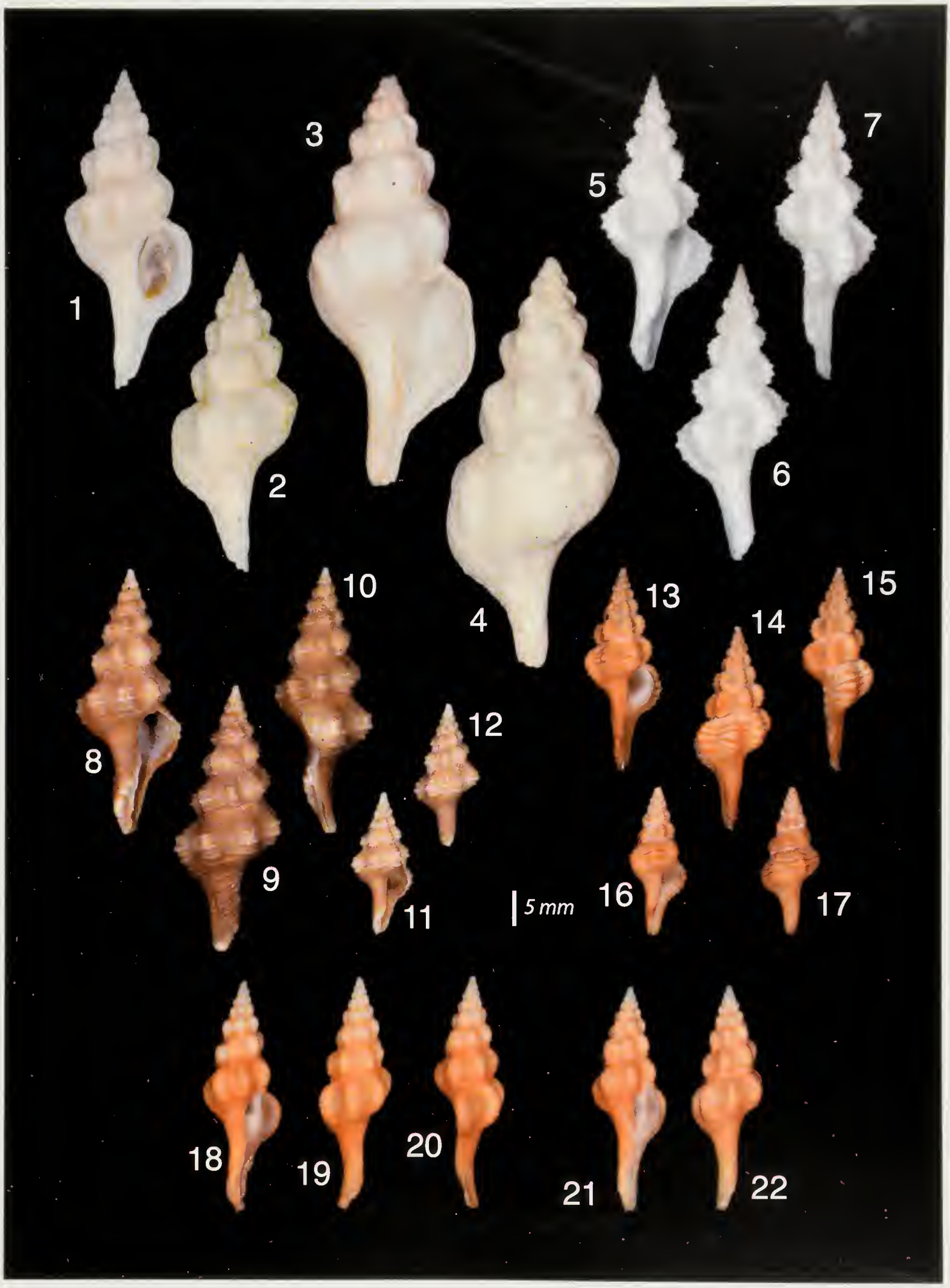
Distribution. Known only from rather deep water (61-350 m) off the northern coast of Honduras, western Caribbean Sea.

Description. Shell of moderate size for genus (to 35.3 x 12.4 mm), fusiform, slender, of about 9 whorls, with tall spire and slender siphonal process. Protoconch of about 2 elevated whorls; first whorl smooth, rounded, with immersed tip; second whorl slightly wider, with nearly straight sides and about 4 very faint axial riblets near terminus. Teleoconch of about 7 whorls bearing prominent axial ribs and low spiral cords; suture narrow, impressed, undulant in accord with ribs and interspaces. Axial ribs 7, high, broad, node-like, bordered anteriorly by suture and posteriorly by short sutural ramp; 3 spiral cords of similar size on whorls 1-3; cords thereafter alternating larger and smaller in size and gradually increasing in number to 10 on penultimate whorl and about 15 on body whorl; strongest cord at periphery atop ribs. Sutural ramp marked with several spiral threads crossing reduced sutural lamellae, creating reticulate pattern. Base and siphonal process elongate, slender, bearing about 11 low, oblique cords and terminating at rounded tip. Aperture subovate, constricted posteriorly by well-developed parietal node and anteriorly by prominent node opposite node at junction of columella and siphonal canal; outer lip arched, generally smooth at edge, inner side bearing 9-14 straight lirae not extending to lip edge; inner lip thin, elevated on largest specimens, extending from parietal region to canal. Columella nearly straight anteriorly, arched posteriorly, bearing 3-4 oblique plicae which diminish to obscure folds on largest shells; siphonal canal straight, smooth within; larger shells (> 32 mm sl) bordered on inner side by lamellate extension of inner lip which extends to tip, creating chink-like pseudoumbilicus on siphonal process. Exterior of shell orange to orange-brown; interior white. Operculum brown, ovate, vaguely drop-shaped, tapering to anterior nucleus; outer surface bearing many fine concentric growth increments. Radula unknown.

Etymology. The species is named for Kevan and Linda Sunderland of Plantation, Florida, who provided many of the specimens we examined and whose collection has proved invaluable in this and other studies.

Remarks. Sutural lamellae of *L. sunderlandorum* shells are much reduced as compared to those of their congeners, but close examination reveals fine, low but distinct lamellae on the sutural ramp. Other features consistent with *Lamellilatirus* are the morphology of the protoconch (Figs 23-27), the tall spire, the generally slender shell, the relatively long, narrow siphonal process, the non-serrate edge of the outer lip, and the progression from distinct columellar folds in young shells to obscure folds on the largest shells. The prominent node at the anterior end of the aperture and an opposing node at the junction of the columella and siphonal canal, present only on the largest *L. sunderlandorum* (35.0 and 35.3 mm sl), are features that also occur on larger shells of *L. ceramidus*.

Figures 1-22. Scale bar: 5.0 mm.
1-4. *Lamellilatirus ceramidus* (Dall, 1889). **1-2**. Lectotype, 46.2 mm, Barbados, depth 134 m, USNM 87069; **3-4**. Off Mona Island, Puerto Rico, 403 m, LC, 59.0 mm.
5-7. *Lamellilatirus eburneus* n. sp. **5-7**. Holotype, 43.4 mm, ANSP 450383, off Isla San Bernardo, Colombia, 150 m.
8-12. *Lamellilatirus lamyi* n. sp. 8-**10**. Holotype, 38.3 mm, MNHN 25714, off Pointe de la Caravelle, Martinique, 250 m; **11-12**. Paratype, 20.6 mm, ANSP 450384, same data as holotype.
13-17. *Lamellilatirus dominiquei* n. sp. **13-15**. Holotype, 29.3 mm, ANSP 450385, off Cabo de la Vela, Colombia, 200 m; **16-17**. Paratype, 21.4 mm, MNHN IM-2012-25, Saint François, Guadeloupe, 200 m.
18-22. *Lamellilatirus sunderlandorum* n. sp. **18-20**. Holotype, 33.3 mm, ANSP 450386, off Pulpit Rock, Mangrove Bight, Roatán, Honduras, 280-270 m; **21-22**. Paratype, 32.2 mm, MNHN IM-2012-26, same data as holotype.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Shells of *L. sunderlandorum* are orange, whereas those of *L. ceramidus* and *L. eburneus* are white and those of *L. dominiquei* and *L. lamyi* are brown, the latter with a lighter-hued band at the periphery. Spiral cords of *L. sunderlandorum* are much smaller than those of *L. eburneus*, *L. lamyi* and *L. dominiquei*. Like *L. ceramidus*, spiral cords alternate large and small, but all cords of *L. sunderlandorum* are proportionally smaller than those of *L. ceramidus*.

Lamellilatirus sunderlandorum also resembles a new species of *Pustulatirus* with which it sometimes occurs off the Honduran coast (Lyons and Snyder, in prep.) Both shells are orange, but *L. sunderlandorum* is longer and more slender than the new *Pustulatirus*, which has less rounded whorls, a shallower suture lacking lamellae, and a serrate edge on at least the anterior portion of its outer lip.

Both the inner and outer lip of the largest paratype (35.3 mm sl) of *L. sunderlandorum* are chipped and the body whorl bears a conspicuous hole similar to some we have seem on shells *ex pisce*. The 35.0-mm paratype also has a severely chipped outer lip.

Figures 23-27. Protoconchs; scale bar: 1.0 mm.

23. *Lamellilatirus ceramidus* (ANSP 450455); **24**. *Lamellilatirus eburneus*, holotype (ANSP 450383); **25**. *Lamellilatirus lamyi*, holotype (MNHN 25714); **26**. *Lamellilatirus dominiquei*, holotype (ANSP 450385); **27**. *Lamellilatirus sunderlandorum*, holotype (ANSP 450386).

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We thank Dominique Lamy and Kevan and Linda Sunderland for making available many of the specimens examined in this study. Amanda Lawless, ANSP, photographed the specimens and prepared the plates. Helpful review comments were provided by Drs. E. F. García and M. G. Harasewych.

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Identity of *Triton anomalus* Hinds, 1844, and the description of a new eastern Pacific *Bailya* (Gastropoda: Buccinidae)

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KEYWORDS. Eastern Pacific Ocean, Central America, Gastropoda, Buccinidae, *Bailya cidaris* n. sp.

ABSTRACT. A lectotype is designated for *Triton anomalus* Hinds, 1844, now *Bailya anomala*. That species is redescribed and *Bailya cidaris* n. sp. is described from western Panamá.

INTRODUCTION

Examination of specimens of the buccinid genus *Bailya* from western Panamá has revealed the presence of two species currently placed under *Bailya anomala* (Hinds, 1844). Two names have been applied to the eastern Pacific *Bailya*: *Triton anomalus* Hinds, 1844, and *Fusus bellus* Adams, 1852, the latter placed in synonymy of *B. anomala* by Keen (1971) and Abbott (1974). [(*Fusus bellus* Adams, 1852, itself is a junior primary homonym of *Fusus bellus* Conrad, 1833, an Eocene fossil from Alabama, USA, now referred to *Penion* (Palmer & Brann, 1966; Synder, 2003)]. But Keen's (1958, 1971) treatments of the species are confusing. In 1958 she recognized *Bailya anomala*, with no mention of *Fusus bellus*, and gave its range as Nicaragua to Panamá. She chose to illustrate Hinds' poor, minute figure (1884a: pl. 4, fig. 14) in both editions. By 1971 she had included *F. bellus* as a synonym, perhaps after seeing Turner's (1956) illustration of the type of that species, which was based on a juvenile specimen. Keen then changed the range to "Guaymas, Mexico, to Nicaragua" despite the fact that both *T. anomalus* and *F. bellus* have Panamá as their type locality. Although *F. bellus* is unavailable, the question is which, if either, of the two taxa recognized here is Hinds' *T. anomalus*.

The two species presented here are best described as the banded species (Figs 3–8) and the non-banded species (Figs 9–15). Hinds' figure of *Triton anomalus* in the *Sulphur* expedition account (1844a) is clearly the banded species (Fig 1). *Fusus bellus* Adams, 1852 (Fig 2), although based on an immature specimen, is also the banded species and thus a junior synonym of Hinds' taxon as Keen suspected.

A problem arises considering the date and place of publication of *Triton anomalus*. The description appears in two places, both in July, 1844: in the *Sulphur* expedition account and in the *Proceedings of the Zoological Society of London* (PZSL). In Hinds' description of the species in the *Sulphur* expedition he lists it as "*Triton anomalus* Hinds, *l.c.*" with the *loc. cit.* referring to "Proceed. Zool. Soc. Feb. 27, 1844." But this refers only to the date his paper was read before the Zoological Society. The actual date of publication was July, 1844, as shown by Duncan (1937), who outlined the tortuous history of the PZSL publication dates. The first part of the *Sulphur* expedition account was also published in July, 1844. The exact day in July of either publication is unknown. Reeve figured the banded taxon the next month (August, 1844) citing only the *Sulphur* account. Which came first – the PZSL description or the *Sulphur* description? Keen (1966) gave the PZSL paper priority, recognizing that the PZSL description dated from July and not February, but without any explanation or proof, perhaps relying on Hinds' *loc. cit.* However, because she did not recognize that two species may have been involved and makes no point of choosing one date over the other, I do not consider this a nomenclatorial act; in fact, she did not include either reference in her literature cited for that paper.

The identity of the *Sulphur* account species is obvious because of the figure – it is the banded taxon. But the PZSL account was unfigured. Furthermore, the brief Latin description, although identical in both accounts, seems to apply more to the unbanded species than to the banded one. There is no mention of the prominent bands in the description, which only refers to the shell as "*fusca*" (brown). But the banded taxon is not brown, although the unbanded one is. Hinds compares his species with *Triton fictilis* Hinds, 1844 ("its appearance is very similar"), a cancellariid that typically does not have bands. Thus it is possible that the description does not refer to the banded taxon that Hinds had nonetheless illustrated.

The type of *Triton anomalus* Hinds, 1844, supposedly at the Natural History Museum in London, has not been located. Keen (1966) spent six months at the Museum in 1964-65 looking for Hinds' material. She was not able to find a significant number of types and remarked that "many of the types and figured specimens were among the lots sold to favored collectors." But she also noted "I may well have overlooked some lots." After inquiring it was confirmed that the type has not been located (A.

Salvador, NHMUK, pers. comm., February 2012). The whereabouts of the type specimen(s) remains unknown.

Two species of *Bailya* occur in the eastern Pacific, but which one is *Triton anomalus*? The identity of the PZSL species is in doubt, whereas the identity of the *Sulphur* species is not. The dates of the two descriptions cannot be precisely determined. To my knowledge, no previous author has definitively and purposefully chosen one publication, in terms of precedence, over the other as a nomenclatorial act. In the interest of fixing the identity of *Triton anomalus* to a specific species, I, as First Reviser, declare the *Sulphur* description (1844a: 12) to be the earlier of the two descriptions and designate Hinds' plate 4, figures 13 and 14 (1844a) as the lectotype of *Triton anomalus* Hinds, 1844 (ICZN 24.2.2, 73.1.4). Keen (1966) stated that all of Hinds' material should be regarded as syntypes; for this reason I have designated the figure as a lectotype rather than a holotype. This act also fixes the type species of *Bailya*, which is *Triton anomalus* by original designation of Smith (1944). This act also preserves the identity of *Bailya anomala* as the taxon to which it has always been associated in the literature and in collections. *Triton anomalus* is redescribed and the second (unbanded) species is described as new.

Unanswered is the question of the type locality of *Triton anomala*. If indeed two species were included in the original description, to which species does "Island of Quibo" (= Isla Coiba) pertain? Because of the lack of type material there appears to be no way to solve this problem. Because Isla Coiba lies within the range of both species, I have assumed that the type locality of what is here recognized as *B. anomala* is correct as originally stated.

Abbreviations

GTW: Collection of G. Thomas Watters.
LACM: Natural History Museum of Los Angeles County, California, USA.
NHMUK: Natural History Museum, London, UK.
UF: Florida Museum of Natural History, Gainesville, Florida, USA.

SYSTEMATICS

Family **BUCCINIDAE** Rafinesque, 1815
Genus ***Bailya*** M. Smith, 1944
Subgenus ***Bailya*** M. Smith, 1944
Type species by original designation: *Triton anomalus* Hinds, 1844, Recent, eastern Pacific Ocean.

Bailya (*Bailya*) *anomala* (Hinds, 1844)
Figs 1-8

Triton anomalus Hinds, 1844a: 12, pl. 4, figs. 13, 14 [July]; Hinds, 1844b: 22 [July]; Reeve, 1844: [83–84], pl. 20, fig. 100; Reeve, 1847: 97; Smith, 1944: 78; Keen, 1966: 270.
Fusus bellus Adams, 1852a: 353, 531; Adams, 1852b: 129, 307; Adams & Adams, 1853: 78; Carpenter, 1864: 347; Carpenter, 1872: 183; Turner, 1956: 34–35, pl. 8, fig. 2; Keen, 1971: 557, fig. 1098 [in synonymy of *Triton anomalus* Hinds, 1844]; Abbott, 1974: 217 [in synonymy of *Triton anomalus* Hinds, 1844] [*non Fusus bellus* Conrad, 1833].
Bailya anomala (Hinds, 1844) – Keen, 1958: 398, fig. 530; Keen, 1971: 557, fig. 1098; Abbott, 1974: 217; Watters, 2007: 10, figs. 8, 9; Watters, 2009: 225.

Type material. *Triton anomalus*: Lectotype, designated herein, Hinds, 1844a: pl. 4, figs. 13, 14. *Fusus bellus*: Holotype, Museum of Comparative Zoology 177176, illustrated in Turner (1956).

Type locality. *Triton anomalus*: Island of Quibo [Coiba], Veragua [Panamá]; on the sandy shore at low water.
Fusus bellus: Panama [Pacific].

Distribution and habitat. Eastern Pacific Ocean, from at least Guaymas, México, to Ecuador. Generally in shallow water to 30 m, often under dead coral slabs.

Redescription. Average 15.9 mm in length (min, 13.3; max, 19.3). Fusiform; spire ca. 50% total length. Protoconch blunt, white, of 1.5 smooth, slightly shouldered whorls. Teleoconch of 5.5–6 whorls, abruptly arising from protoconch. Teleoconch sculpture of widely separated, spiral cords; 17 1° (primary) cords on final whorl; cords most prominent on siphonal canal. Between 1° cords is single (occasionally two) 2° (secondary) cords or threads. Both types of cords are more similar in size on the siphonal canal and below the suture. Axial ribs widely spaced; 13–15 ribs on penultimate whorl, 12–14 ribs on last whorl. Axial ribs separated by microscopic axial threads. Sculpture predominately spiral, weakly cancellate, with intersections of spiral and axial sculpture forming slightly more pronounced spiral nodes. Terminal varix well-developed, set back a short distance from outer lip. Aperture oval, weakly or obsoletely crenulated (ca. 6–7 denticles) on outer lip; anal canal set off by two very weak denticles. Columella continuous, smooth. Parietal callus adherent to body whorl for its length. Siphonal canal short, open. Color white beneath a thin, tan periostracum (usually lost), with 3 dark brown spiral bands, often reduced to spots at the sculptural intersections; individual tubercles on the siphonal canal may be colored as well. Aperture white. Operculum, radula, and anatomy unknown.

Remarks. This species is rather constant in its sculpture and coloration but varies considerably in size. See Table 1 for comparison with *B. cidaris*. *Bailya anomala* does not seem to be closely related to

any other member of the genus. Its large size and conspicuous color bands are unique.

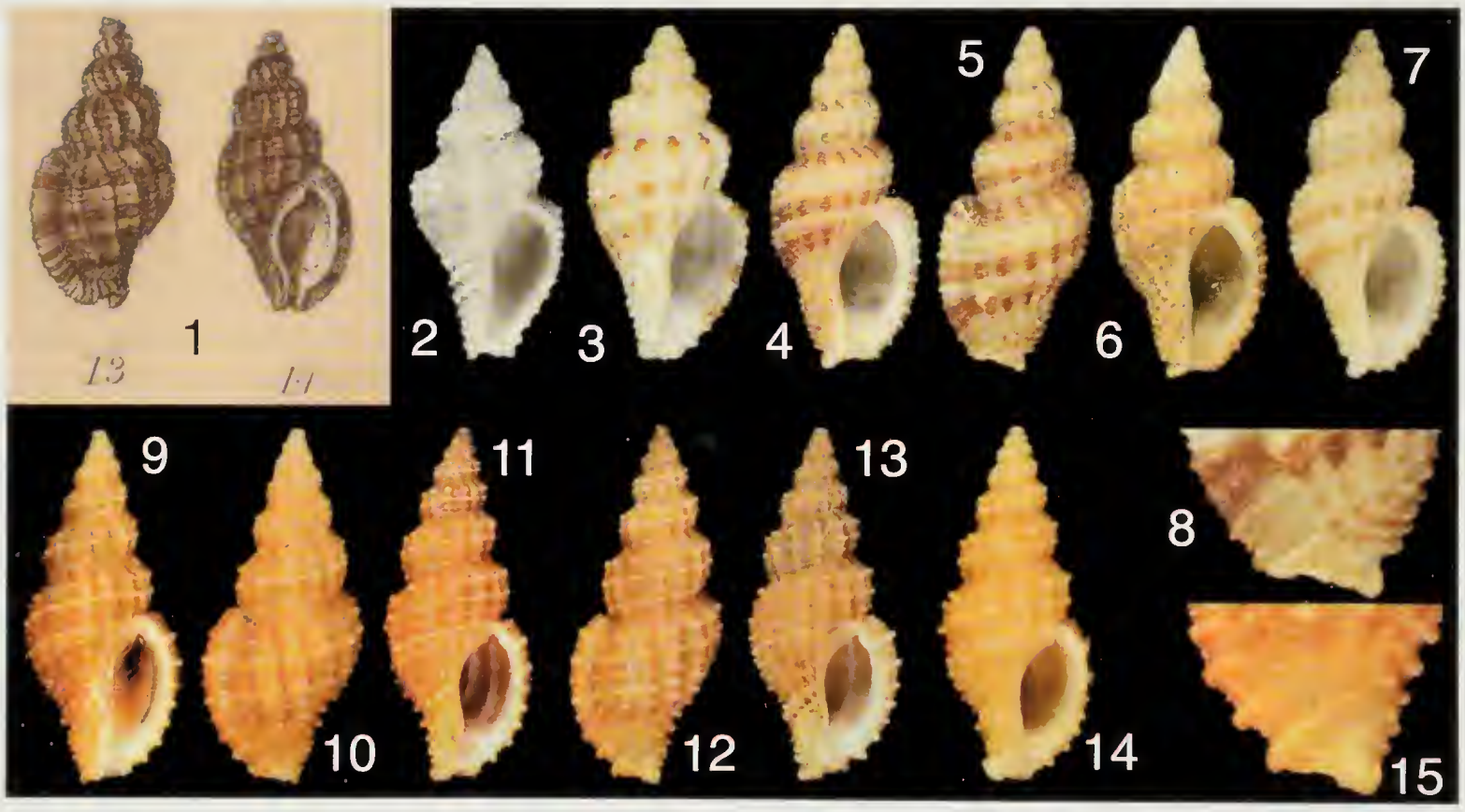
Bailya* (*Bailya*) *cidaris n. sp.
Figs 9-15

Type material. Holotype LACM 3243, 3 m, Isla Coiba, Veraguas Province, Panamá, 3 m.
Paratypes: 1 LACM 3244, 20–30 m, Bahia de Chiriquí, Panamá, 15.8 mm length; 1 OSUM 37272, 20–30 m, Bahia de Chiriquí, Panamá, 15.3 mm length; 1 UF 451539, 20–30 m, Bahia de Chiriquí, Panamá, 14.7 mm length; 1 OSUM 37273, 6–7 m, off Puntarenas Province, Costa Rica, 13.7 mm length.

Type locality. Eastern Pacific Ocean, Isla Coiba, Veraguas Province, Panamá, 3 m.

Distribution and habitat. Eastern Pacific Ocean. Known only from Bahia de Chiriquí and Isla Coiba, Panamá, to Costa Rica. Specimens have been found from 3 to 30 m; live specimens were collected in 3 m. Based upon the type locality of *B. anomala*, both species occur at Isla Coiba.

Description. Average 14.9 mm in length (min, 13.7; max, 15.8; holotype 15.2 x 7.0 mm). Fusiform; spire ca. 50% total length. Protoconch blunt, white or tan, of 1.5 smooth, slightly shouldered whorls. Teleoconch of 6 whorls, abruptly arising from protoconch. Teleoconch sculpture of widely separated, raised, spiral cords; 11–12 1° cords on final whorl; cords most prominent on siphonal canal. Between 1° cords are 3 more or less equally sized 2° cords or threads. Axial ribs widely spaced; 13–14 ribs on penultimate whorl, 12–13 ribs on last whorl. Axial ribs separated by microscopic axial threads. Sculpture cancellate, with intersections of spiral and axial sculpture forming prominent tubercles. Terminal varix well-developed, set back a short distance from outer lip. Aperture oval, weakly crenulated (ca. 6 denticles) on outer lip; anal canal set off by two very weak denticles. Columella continuous, smooth. Parietal callus adherent to body whorl for its length. Siphonal canal short, open. Color tan, axial ribs often dark brown, with or without 4 darker spiral bands, spiral cords and tubercles may be lighter colored. Aperture white. Operculum tan to dark red, leaf-shaped, with terminal apex. Radula and anatomy unknown.



Figures 1–15

1-8. *Bailya anomala* (Hinds, 1844).
1. Figures 13, 14 of *Triton anomalus* from Hinds, 1844a. **2.** Holotype MCZ 177176 of *Fusus bellus* Adams, 1852. Panamá, ca. 11 mm length, subadult, figure from Turner (1956). **3.** GTW 9114a, 18 m, Isla Venado, Panamá, 12.5 mm length, subadult. **4, 5.** GTW 9114b, 1–2 m, Puerto Vallarta, México, 19.3 mm length. **6.** GTW 9114c, 1 m, Isla Pedro Gonzáles, Panamá, 16.6 mm length (with periostracum). **7.** GTW 9114e, Bahía Rincón, Costa Rica, 14.5 mm length. **8.** Detail of siphonal canal sculpture from GTW 9114b.
9-15. *Bailya cidaris* n. sp.
9, 10. Holotype, LACM 3243, 3 m, Isla Coiba, Panamá, 15.3 m length. **11, 12.** Paratype, LACM 3244, 20–30 m, Bahia de Chiriquí, Panamá, 15.8 mm length. **13.** Paratype, OSUM 37272, 20–30 m, Bahia de Chiriquí, Panamá, 15.3 mm length. **14.** Paratype, UF 451539, 20–30 m, Bahia de Chiriquí, Panamá, 14.7 mm length. **15.** Detail of siphonal canal sculpture from LACM 3244.

Remarks. *Bailya cidaris* differs from the only other known *Bailya* in the eastern Pacific Ocean (*B. anomala*) in color and sculptural details (Table 1). It appears to have a much more restricted distribution than *B. anomala*, being limited to the coast of Panamá and Costa Rica. It's closest relative, based on shell features, is the western Atlantic Ocean *Bailya intricata* (Dall, 1884), particularly specimens from eastern Panamá (see Watters, 2009: figs. 131–132). *Bailya intricata* differs from *B. cidaris* in having more 1° spiral cords on the last whorl (12–16 vs 11–12) and more axial ribs on the last whorl (13–16 vs 12–13). The axial ribs in *B. intricata* are rarely darkly colored as in *B. cidaris*.

Etymology. L. *cidaris*, a Persian diadem or tiara. A feminine noun in apposition.

Table 1. Shell differences between *B. anomala* and *B. cidaris*. Spiral sculpture – cords arranged by decreasing size A to B.

Shell characteristic	*Bailya anomala*	*Bailya cidaris*
Length (mm)	13.3-19.3	13.7-15.8
Number of axial ribs on final whorl	12-14	12-13
Number of axial ribs on penultimate whorl	13-15	13-14
Spiral sculpture pattern on body whorl	A-B-A	A-B-B-B-A
Intersections form prominent tubercles	No	Yes
Sculpture cancellate	Weak	Strong
Number of 1° spiral cords on final whorl	17	11-12
Color pattern	White with three broad interrupted brown spiral bands	Tan with narrow pale bands, axial ribs may be darker

ACKNOWLEDGMENTS

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A new species of *Murchisonella* (Heterobranchia, Murchisonellidae) from Cuba

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Keywords. Heterobranchia, Murchisonellidae, *Murchisonella*, new species, Cuba.

Abstract. A new species of the genus *Murchisonella* is described and compared with the other species known from the Caribbean.

Resumen. Se describe una nueva especie del género *Murchisonella* comparándola con la otra especie ya conocida del Caribe.

INTRODUCTION

Recently a world-wide revision of the genus *Murchisonella* (Peñas & Rolán, in press) showed that only one species is known from the Caribbean waters: *Murchisonella spectrum* Mörch, 1875 with the synonyms *Aclis bermudensis* Dall & Bartsch, 1911 and *Bermudaclis tampaensis* Bartsch, 1947. This species is well known and presented in many publications (for example, Redfern, 2001: 151, pl.67). In the collection of samples taken by the second author (RFG) from several localities in Cuba some shells of an unknown species of this genus were found. The preservation of these shells indicates they may have originated from quaternary deposits.

Abbreviations

MCZ: Museum of Comparative Zoology, Harvard University, Cambridge, U.S.A.
MHNS: Museo de Historia Natural, Santiago de Compostela, Spain.
MNCN: Museo Nacional de Ciencias Naturales, Madrid, Spain.
MNHN: Muséum National d'Histoire Naturelle, Paris, France.
IES: Instituto de Ecología y Sistemática, Havana, Cuba.
USNM: National Museum of Natural History, Washington, D.C., U.S.A.
CFG: collection of R. Fernández-Garcés.
s: empty shell.

SYSTEMATICS

Family **MURCHISONELLIDAE** Casey, 1904

Genus ***Murchisonella*** Mörch, 1875

Type species: *Aclis* (*Murchisonella*) *spectrum* Mörch, 1875, by monotypy.

Murchisonella ultima spec. nov.
Figs 1-4

Type material. Holotype (Fig. 1) in MNCN (15.05/60062, s). Paratypes: MNHN (IM-2012-28, 1 s, Fig. 2); MHNS (100576, 3 s); CFR (3 s); all from the type locality. Other paratypes: IES (1 s) CFG (1 s) from Calicito, Cienfuegos Bay, 22°07.970'N, 80°29.824'W, 12 m, Cuba; MCZ (1 s) from Los Pinitos, Cienfuegos Bay, 22°07.886'N, 80°27.313'W, 8-10 m, Cuba; CFG (5 s) Cienfuegos Bay, Cuba.

Type locality. North of Cuba, mouth of the Sagua River, Villa Clara Province, 22°57'36"N, 80°00'47"W, in sediments 4.5 m depth.

Etymology. The species name derives from the Latin *ultimus, -a, -um*, alluding to be the last species found after a large revision of this group (in press).

Description. Shell (Figs 1-3) small, subcylindrical, whitish and fragile. Protoconch (Fig. 4) typical for the genus, smooth, at one level, with a diameter of about 200 μm, small nucleus (diameter about 20 μm) and a clear separation from the teleoconch. Teleoconch with about 4 ½- 5 whorls, slightly convex, whorl height slowly increasing, from the start having about 9 spiral grooves that are regularly distributed over the whorl and are crossed by numerous and irregular axial folds. From the second whorl the folds on the upper part of the whorls (between the 4 upper grooves) are clearly opistocyrt (curved backward), while those of the lower part are prosocyrt (curved forward). These folds are narrow and numerous (about 130 by whorl). There is no clear separation between the upper and lower parts of the whorls except for the switch in microsculpture curvature. Aperture rounded; columella slightly curved lacking any fold or tooth.
Dimensions: The holotype is 1.25 mm high. The other shells have a similar size.

Distribution. Only known from the type material, from the north and south coasts of Cuba.

Remarks. The only known congeneric species in the Caribbean (*M. spectrum*) is larger (up to 3 mm), with a more conic profile, an evident step separating the upper and lower parts of the whorls, less and wider spiral grooves, and less developed axial sculpture.
We wanted to make a comparison with *Henrya morrisoni* Bartsch, 1947 (Murchisonellidae) which has a similar size, but the holotype of that species in the USNM (sample 573636) has been lost (pers. comm. Ellen Strong and Yolanda Villacampa). In the description of this species Bartsch (1947) mentions that its whorls are "strongly rounded" and the "suture strongly constricted", which differentiates it from our new species. Shells of 1.4 mm high have 5.4 whorls. The specimen of *H. morrisoni* illustrated in Redfern (2001: plate 67) has strongly convex whorls and constricted suture and therefore probably is *Henrya henryi*. In the original description of *H. morrisoni* there is no mention of spiral grooves as are present in the species here described. The two other species of this Caribbean genus described by Bartsch (1947) are *H. henryi* and *H. goldmani*. Both are larger (the types measure 2.1 mm high with 6.3 whorls (*B. henryi)* and 2.0 mm high with 6 whorls (*H. goldmani*) and the whorls are strongly convex.

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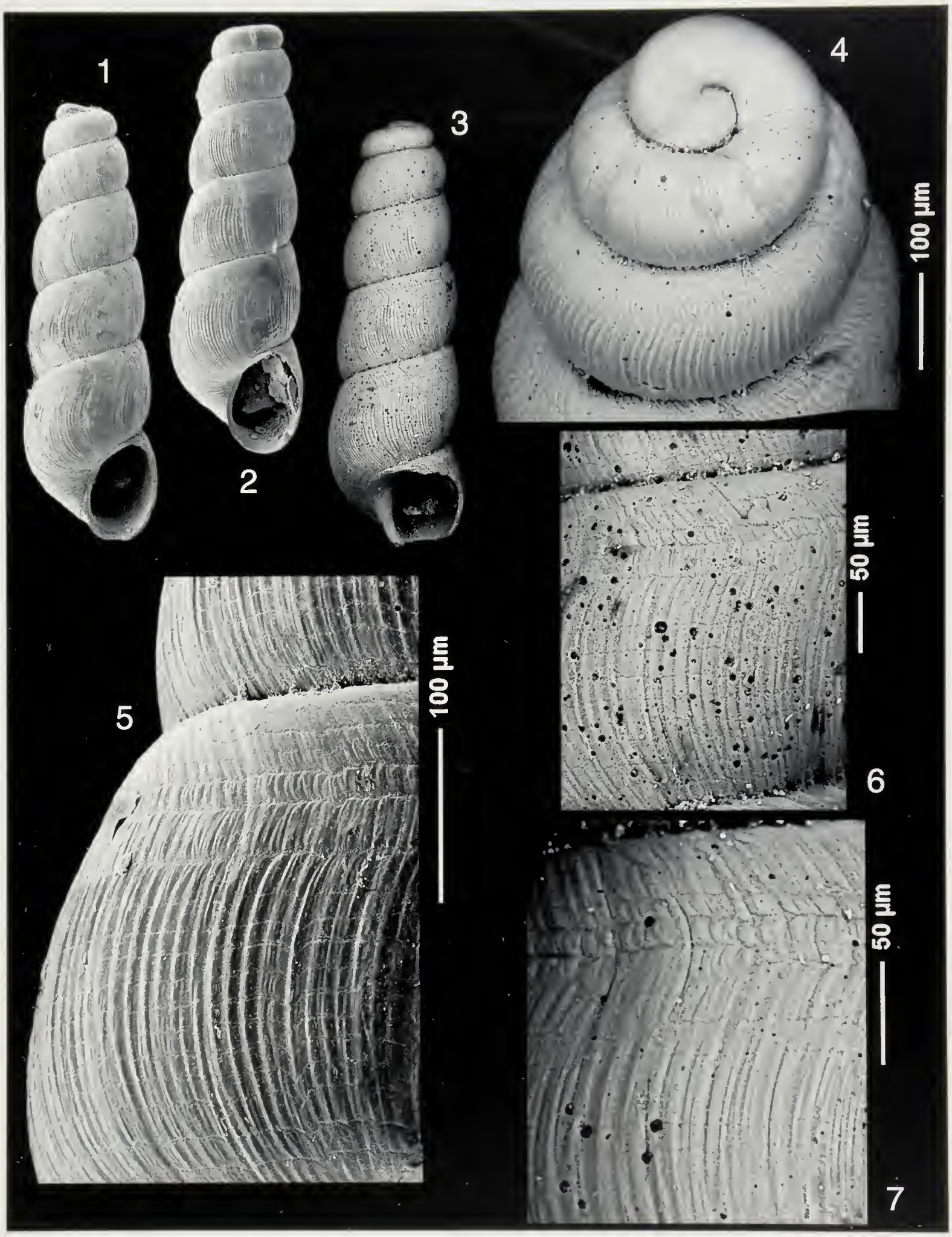
Figures. 1-7. ***Murchisonella ultima*** **spec. nov.**

1. Holotype, 1.25 mm, Sagua (MNCN); **2.** paratype, 1.2 mm, Sagua (MNHN); **3.** paratype, 1.3 mm, Calicito, Cienfuegos Bay (IES); **4.** apex and protoconch; **5-7.** microsculpture and detail.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Deux nouvelles espèces de Columbellidae (Gastropoda: Neogastropoda) de l'île de Martinique, Antilles françaises

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MOTS CLÉS. Gastropoda, Neogastropoda, Columbellidae, Martinique, *Costoanachis* n.sp., *Astyris* n.sp.

RÉSUMÉ. Deux nouvelles espèces de Columbellidae du genre *Anachis* sous genre *Costoanachis* et du genre *Astyris* sont décrites de l'île de Martinique, Antilles françaises.

ABSTRACT. Two new species of Columbellidae of the genus *Anachis* subgenus *Costoanachis* and genus *Astyris* are described from Martinique Island, French Antillean.

INTRODUCTION

En 2006, Régis Delannoye, pêcheur martiniquais, remonte de façon accidentelle de vieux filets perdus par 240 m de profondeur au large de La Trinité côte nord-est de l'île de la Martinique. A l'examen de ces vieux filets concrétionnés, de nombreux spécimens de diverses espèces de mollusques furent récoltés. Parmi ceux-ci figuraient une vingtaine de spécimens, de taille inférieure au centimètre, appartenant à deux espèces inconnues de la famille des Columbellidae.

Abréviations

CJP: collection Jacques Pelorce
CKM: collection Kevin Monsecour
MNHN: Muséum national d'Histoire naturelle, Paris, France

SYSTEMATIQUE

Famille **COLUMBELLIDAE** Swainson, 1840
Sous-famille **ATILIINAE** Cossmann, 1901
Genre ***Anachis*** H. & A. Adams, 1853
Sous-genre ***Costoanachis*** Sacco, 1890
Espèce type par désignation subséquente *Columbella (Anachis) turrita Sacco*, 1890 (Pace, 1902: 43), non Sowerby, 1832 (= *Costoanachis saccostata* nom. nov) (Radwin, 1968 : 120) fossile du tertiaire du Piémont et de la Ligurie (Italie).

Discussion. Le sous-genre *Costoanachis* introduit par Sacco (1890) de manière très succincte « Anfractus omnes longitudinaliter costati excepta *C. corrugata* Brocchi var. B) » a été redéfini par Radwin (1968: 120): "Shell small to moderate in size (4-15mm in length), and convex, suture shallow to incised or impressed; body whorl equal to or less than ½ total length, aperture moderately wide; columella straight, weakly denticulate, siphonal canal short and straight; sculpture of prominent axial ribs, in some cases limited to the body whorl, commonly with microscopic spiral grooves between them. Color variable". Nos spécimens correspondent parfaitement à cette description sauf en ce qui concerne la hauteur du dernier tour qui est supérieure à la moitié de la hauteur totale. Cependant dans sa définition du genre Radwin (1968: 120) inclut et figure dans ce genre les espèces *C. avara* (Say, 1822), *C. hotessieriana* (Orbigny, 1842), *C. sparsa* (Reeve, 1859) ou *C. scutulata* (Reeve, 1859), entre autres, qui ont les derniers tours dont la hauteur est supérieure à 60 % de la hauteur totale.

Anachis (Costoanachis) martinicensis n. sp.
Figs 1-8

Localité type. Au large de La Trinité, côte nord est de l'île de la Martinique, 240 m de profondeur.

Matériel type. Holotype (6,4 x 3,0 mm) MNHN 25212 (Figs 1-5), paratype 1 (6,1 x 2,7 mm) (Fig. 6) CJP, paratype 2 (7,0 x 3,0 mm) (Fig. 7) CJP, paratype 3 CJP, paratype 4 MNHN et paratype 5 CKM, tous de la localité type.

Distribution. Connue actuellement uniquement de la localité type au large de La Trinité, au nord-est de l'île de la Martinique, par 240 m de profondeur.

Description. Coquille de petite taille (L = 6.0 à 7.1 mm), largeur sensiblement égale à 44 % de la hauteur, dernier tour occupant environ 60 % de la hauteur totale, suture incisée bien marquée, tours légèrement convexes à la base et régulièrement étagés. Protoconque bulbeuse, composée d'environ 1 tour et demi, blanche à beige clair, surface lisse. Sculpture de la téléoconque constituée de très fines stries d'accroissement, de 32 stries spirales, 12 sur l'avant dernier tour, les 4 premières sous la suture plus serrées et une vingtaine sur la moitié inférieure du dernier tour, de 10 grosses côtes axiales arrondies sur le premier tour puis 7 sur les tours suivants où elles sont alignées, l'espace entre les côtes est égal au double

environ de la largeur de celles-ci. Ouverture ovale, canal anal légèrement marqué, canal siphonal court et profond. Sur les spécimens matures le labre épaissi extérieurement porte à l'intérieur 8 plis très légers, un cal columellaire débordant légèrement l'ouverture, un pli peu marqué à la base de la columelle. Couleur blanc à beige clair avec quelques taches irrégulières marron clair.

Discussion. Une seule espèce récemment décrite de la Guadeloupe ressemble à la nouvelle espèce : *C. roberti* Monsecour & Monsecour, 2006, *C. martinicensis* s'en différencie aisément par sa taille plus petite, un nombre de côte plus réduit, des stries spirales moins apparentes, des tours moins convexes et une coloration moins vive.

Etymologie. L'espèce est nommée en référence à l'île de la Martinique d'où proviennent les spécimens.

Genre ***Astyris*** H. & A. Adams, 1853
Espèce type par désignation subséquente *Astyris rosacea* (Gould, 1840) (Cossmann, 1901: 238), Groenland au New Jersey; Alaska; Nord de l'Europe.

Astyris delannoyei n. sp.
Figs 8-14

Localité type. Au large de La Trinité côte nord est de la Martinique, 240 m de profondeur

Matériel type. Holotype (8,0 x 3,5 mm) MNHN 25213 (Figs 8-11), paratype 1 (7,4 x 3,4 mm) (Fig. 12) CJP, paratype 2 (6,7 x 3,1 mm) (Fig. 13) CJP, paratype 3 (6,0 x 2,8 mm) (Fig. 14) CJP, paratype 4 MNHN, paratype 5 CKM, paratypes 6 à 12 CJP, tous de la localité type.

Distribution. Connue actuellement uniquement de la localité type au nord-est de l'île de la Martinique par 240 m de profondeur

Description. Coquille de petite taille (L = 6.0 à 8.0 mm), largeur sensiblement égale à 45 % de la hauteur, dernier tour occupant environ 2/3 de la hauteur totale, suture incisée bien marquée, tours légèrement convexes et régulièrement étagés, coquille brillante, translucide; fausse suture nettement visible par transparence sur les premiers tours, suture incisée bien marquée. Protoconque élevée, composée d'environ 3 tours, blanc crème, surface lisse. Sculpture de la téléoconque constituée de très fines stries d'accroissement et d'environ 10 à 14 stries spirales sur la moitié inférieure du dernier tour. Ouverture ovale, canal anal très légèrement marqué, canal siphonal court et profond. Sur les spécimens matures le labre épaissi extérieurement porte 2 à 4 dents à l'intérieur de la partie supérieure, cal columellaire appliqué, deux plis bien marqués à l'intérieur de l'ouverture à la base de celle-ci. Décoration très variable composée de taches et de lignes irrégulières marron et de taches blanches sur fond beige, une ligne marron plus foncée au dessus de la suture peut être présente.

Discussion. Deux espèces de la région caraïbe ressemblent à la nouvelle espèce: *Astyris lunata* (Say, 1826) (Figs 15-16) et *A. multilineata* (Dall, 1889) (Figs 17-18). Ces deux espèces sont figurées et décrites par Tunnel et al. (2010: 216-217). Elles se distinguent d'*A. dellanoyei* par leur taille beaucoup plus petite, par leur protoconque qui possède un tour de moins, et par une suture des tours de téléoconque non incisée.

Etymologie. L'espèce est nommée en l'honneur de Régis Delannoye, pêcheur martiniquais de la Trinité, qui a remonté le filet perdu dans lequel il a trouvé les spécimens décrits ici.

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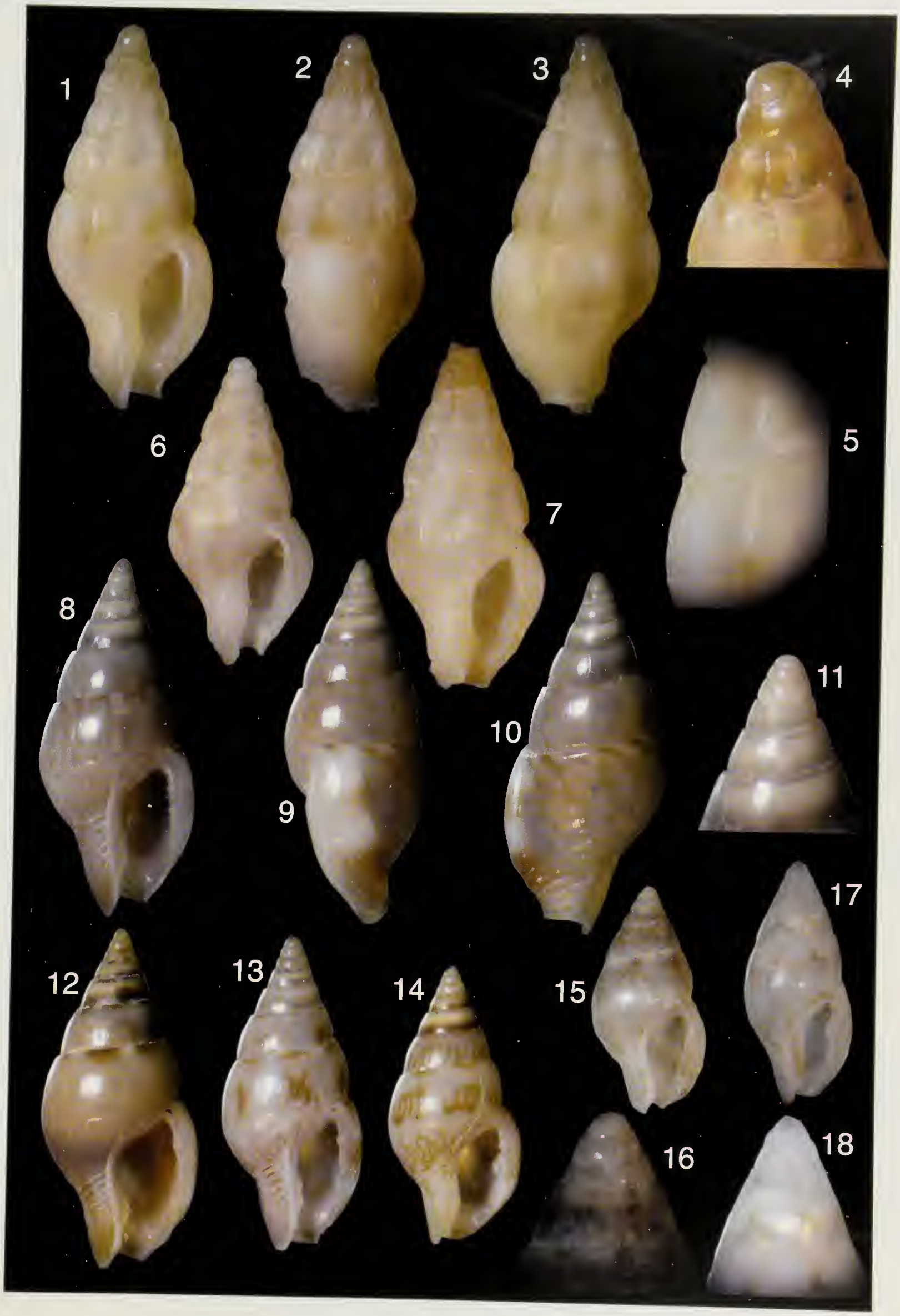
Figures 1-18

1-7. *Anachis (Costoanachis) martinicensis* n. sp. Nord-Est Martinique, 240m.
1-5. Holotype MNHN 25212, 6,4 x 3,0 mm; **6.** Paratype 1 CJP 6,1 x 2,7 mm. **7.** Paratype 2 CJP 7,0 x 3,0 mm.
8-14. *Astyris delannoyei* n. sp. Nord-Est Martinique, 240m.
8-11. Holotype MNHN 25213, 8,0 x 3,5 mm; **12.** Paratype 1 CJP 7,4 x 3,4 mm. **13.** Paratype 2 CJP 6,7 x 3,1 mm. **14.** Paratype 3 CJP 6,0 x 2,8 mm.
15-16. *Astyris lunata* (Say, 1826), St Kitts CJP 3,3 x 1,65 mm.
17-18. *Astyris multilineata* (Dall, 1889), Antigua CJP 3,5 x 1,45 mm.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Keen, A.M. & Campbell, G.B. 1964. Ten new species of Typhinae (Gastropoda : Muricidae). *TheVeliger* 7(I): 46-57.
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Traitement des manuscrits. Les manuscrits seront soumis au conseil d'administration qui distinguera les articles d'intérêt scientifique et ceux d'intérêt général. Les décisions et les commentaires seront communiqués aux auteurs, qui en tiendront compte. La version corrigée devra être renvoyée à la Société Belge de Malacologie sous forme informatisée (en Word pour Windows) accompagnée d'un tirage sur papier. Elle devra respecter strictement les instructions de mise en page qui auront été communiquées aux auteurs. Une épreuve finale sera renvoyée aux auteurs pour correction.
Tirés-à-part. En ce qui concerne les articles d'intérêt scientifique, 30 exemplaires sont gratuits, jusqu'à concurrence de 240 pages maximum, si au moins un des auteurs est membre de la Société. Les exemplaires supplémentaires (min. 30 exemplaires) seront facturés au prix coûtant.
Pour les non membres, les tirés-à-part sont à charge des auteurs, au prix coûtant (minimum 30 exemplaires). Les frais de port sont toujours à charge des auteurs.

Les manuscrits et toute correspondance seront adressés à:
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General conditions. Membership is not mandatory for authors. Publication of papers with a maximum of 12 double spaced printed pages is free of charge. Beyond 12, every page will be invoiced at the price of 40,00 €. Larger papers may be splitted on several issues.
Supplements are published irregularly. Authors wishing to submit papers for supplements (40 printed pages or more) are asked to contact the board previously at the address mentioned below.
Papers describing new species (subspecies) will be accepted only if the primary types are deposited in a recognized public Museum or scientific Institution.
The paper will be in accordance with the rules of the *International Code of Zoological Nomenclature* (Fourth edition)
Manuscripts. Manuscripts will be in English or in French. They must be typed on one column, ragged right (left-justified), double-spaced throughout, on one side only of A4. Margins must be at least 25 mm. The sequence of sections will respect the following order: title, name of author(s), address(es) of author(s), keywords and summary in English. Generic and (sub)specific names have to be typed in *italics*. References in the text should be given as follows: Keen & Campbell (1964) or (Keen & Campbell, 1964). **Refer to a recent issue of Novapex for the lay out.**
References, in alphabetic order, should be given in the following form (titles of journals should not be abbreviated):

Keen, A.M. & Campbell, G.B. 1964. Ten new species of Typhinae (Gastropoda : Muricidae). *TheVeliger* 7(I): 46-57.
Powell, A.W.B. 1979. *New Zealand Mollusca. Marine, land and freshwater shells*. William Collins Publishers Ltd: xiv + 500 pp.
Mayr, E. 1989. Attaching names to objects. In: *What the philosophy of biology is : essays for David Hull* (M. Ruse, ed.), Klumer Academic, Dordrecht: 235-243.
Internet resources.
Author(s) 2007. Title of the website or database, publisher name and locatiuon (if indicated), number of pages, address: http://www.... (date of access).

Illustrations. Photographs must be of a high quality (colour or black/white), printed on glossy paper in a final version (max. 16 X 21 cm), adequatly mounted. Colour work can be submitted for black & white production. The illustrations may be submitted as digital files (CD-ROM, ZIP) in BMP, JPG or TIFF format, with mention of the program. They must be adequately mounted with not any other text than the numbering. A printed version of the plates must be imperatively sent together with the manuscript.
If more than one figure is included in a plate or/and in the text, ALL figures must be consecutively numbered (Fig. 1, 2, 3...) NOT Fig 1A, 1B, 1C, NOR plate 1, Fig. 1...
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or by e-mail: vilvens.claude@skynet.be

NOVAPEX/SOCIETE

(suite)

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VIE DE LA SOCIETE LIFE OF THE SOCIETY

Prochaines activités de la SBM

Claude VILVENS

Lieu de réunion : **A partir de 14h, à notre local habituel :**

Salle "Memling" (1er étage - ascenseur) - Rue de Genève, 470b – Schaerbeek (Bruxelles)

SAMEDI 27 AVRIL 2013

M. Alexandre : Un panorama des Haliotidae.

Notre trésorier s'intéresse à cette famille depuis longtemps. Pour ceux qui n'étudient pas particulièrement les Haliotis, elles se ressemblent toutes. Notre spécialiste nous dévoilera quelques-uns de ses secrets de détermination de ces belles coquilles "aux grandes oreilles" et qui semblent pouvoir "se découper selon les pointillés" formés par leurs petits orifices si parfaitement alignés ;-) !

***

SAMEDI 25 MAI 2013

Tout le monde : L'excursion de printemps de la SBM.

Avec le beau temps revient l'envie d'aller sur le terrain ;-) (air connu !). Plusieurs zones sont envisagées : notre équipe de reconnaissance déterminera en avril celle qui semble la plus intéressante (plus tôt, c'est trop tôt pour les escargots ;-)).
Durée de l'excursion : la matinée (fin vers 12h30).
Pour ceux qui sont intéressés par les mollusques d'eau douce, prévoir des bottes et surtout une épuisette.
Comme d'habitude, les informations fraîches seront disponibles sur notre site Internet (http://www.societe-belge-de-malacologie.be/) ou auprès de Claude (vilvens.claude@skynet.be ou 04/248.32.25) et Etienne Meuleman (e.meuleman@skynet.be ou 04/380.55.16). Comme d'habitude aussi, il convient de prévoir d'emporter sa bonne humeur, un guide de détermination … et sans doute aussi bottes et vêtements de pluie (en principe, il fera doux et ensoleillé, mais bon ;-) …).

***

SAMEDI 15 JUIN 2011

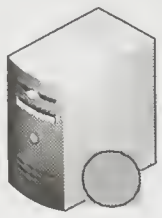
Tout le monde : Le grand jeu des coquillages

Avant les grandes vacances, nous vous proposons de nous retrouver pour une activité ludique : nous allons en effet jouer au coqui-quiz-lotto – vous l'aurez compris, il s'agira d'un quiz malacologique, formule qui a remporté beaucoup de succès lors de ses précédentes éditions. Et on gagne quelque chose : mais oui, des coquilles bien sûr ☺
Un joyeux après-midi avant les grandes vacances !

Pour les informations de dernière minute :

Sur Internet :

http://www.societe-belge-de-malacologie.be/



Novapex/Société : la publication généraliste de la SBM

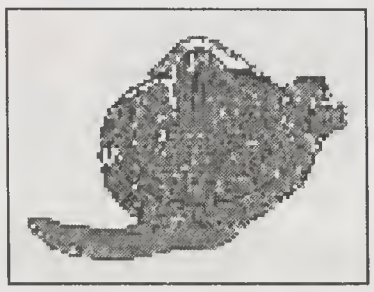
Rédacteurs en chef : Claude Vilvens & Etienne Meuleman

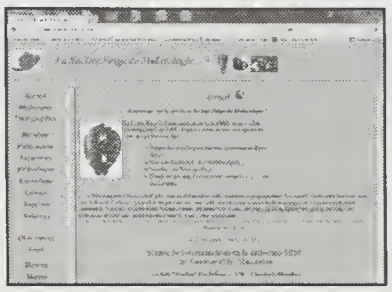
Tous les articles généraux sont les bienvenus pour Novapex/Société ☺ !

Afin de faciliter le travail de la Rédaction, il est vivement (et le mot est faible ;-)) souhaité de respecter les règles suivantes pour les articles proposés :

- document MS-Word (pour PC Windows 2000 ou XP);
- police de caractères Times New Roman;
- texte de taille 10, titres de taille 12;
- interligne simple;
- toutes les marges à 2,5 cm;
- document en une seule section;
- pas de mode colonne;
- photos en version électronique JPG.

Merci pour les Scribes ;-) ! N'hésitez pas à demander une page avec en-tête pour cadrer au mieux vos travaux (vilvens.claude@skynet.be ou e.meuleman@skynet.be).





Petit rappel du trésorier

Marc ALEXANDRE

Chers amis,

Pensez à renouveler **votre cotisation** dès maintenant.

Nous vous rappelons aussi que celle-ci s'est vu augmenter de 3 euros pour 2013 et sera donc de **43 euros** pour les membres habitant en Belgique et de **58 euros** pour les membres résidant à l'étranger.

De même, je vous rappelle également notre changement de compte qui se trouve dorénavant à la Banque **ING**, Bruxelles.
Merci d'effectuer vos versements
sur le compte n° 363-0831752-17 [IBAN: **BE61 3630 8317 5217** – BIC : (= SWIFT) BBRUBEBB]
au nom de M. Marc ALEXANDRE, rue de la Libération, 45, 6182 Souvret Belgique.

Merci de bien vouloir porter une attention toute particulière à ces modifications afin de nous éviter des désagréments de rappel.

Extension de l'aire de distribution de *Bornia aartseni* Gofas, 2012 aux côtes atlantiques du Sud de la Péninsule Ibérique

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MOTS CLEFS/ KEY WORDS

Bornia aartseni - Kelliidae - Algarve - Portugal

RESUMÉ

Un exemplaire intact et 4 valves de *Bornia aartseni* (Bivalvia - Kelliidae) ont été récoltés sur la plage de Monte Gordo en Algarve (Portugal). L'aire de distribution de *Bornia aartseni*, précédemment limitée à l'Andalousie méditerranéenne, est élargie à la côte atlantique du sud de la Péninsule Ibérique.

ABSTRACT

One intact specimen and 4 valves of *Bornia aartseni* (Bivalvia - Kelliidae) were found on the beach of Monte Gordo, Algarve (Portugal). The distribution range of *Bornia aartseni*, previously limited to the Mediterranean coast of Andalusia now extends to the Atlantic coast of the Southern Iberian Peninsula.

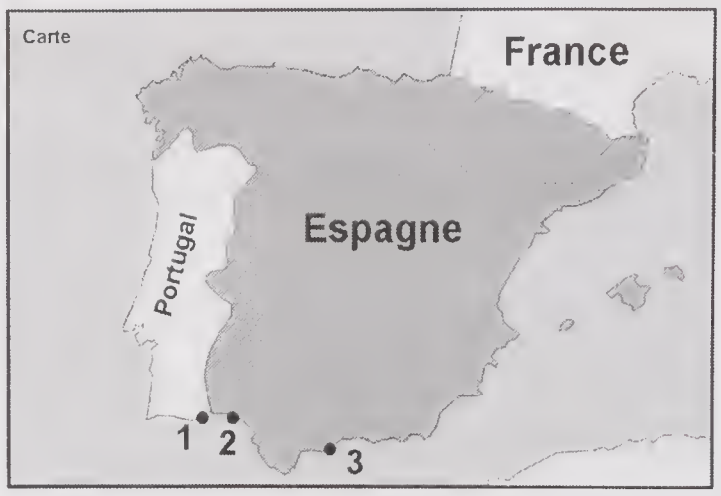
INTRODUCTION

La famille des Kelliidae (Veneroida - Galeommatoidea) qui regroupe de petits bivalves a été largement illustrée par van Aartsen en 1996 et par Gofas en 2011. En Europe, quatre genres composent la famille : *Kellia* Turton, 1822, *Pseudopythina* P. Fischer, 1878, *Bornia* Philippi, 1836 et *Solecardia* Conrad, 1849.
Dans les eaux du nord-est Atlantique et de Méditerranée, le genre *Bornia* Philippi, 1836 est représenté par quatre espèces (CLEMAM consultation 01-2013) :
- *Bornia sebetia* (Costa O.G., 1829): espèce de forme triangulaire quasi équilatérale, à la coquille brillante, présente en Algarve, sur la côte atlantique du Maroc et en Méditerranée.
- *Bornia geoffroyi* (Payraudeau, 1826) : espèce de forme plus arrondie que la précédente, avec umbo prosogyre, présente en Atlantique, de l'Algarve au Sénégal.
- *Bornia canariensis* D.F. Hoeksema et Simons, 2011 : espèce de forme assez similaire à *Bornia sebetia*, présente dans l'archipel des Canaries,
- *Bornia aartseni* Gofas, 2012 : espèce de Méditerranée récemment décrite, présente en Andalousie (Benalmádena et environs).

Bornia aartseni se différencie de *Bornia sebetia* par les caractères suivants (Gofas 2012) :
- une taille plus petite (3 mm versus 8 mm),
- une prodissoconque plus petite (260-280 μm versus 450-500 μm),
- une ligne palléale proportionnellement plus proche du bord ventral,
- une surface interne des valves quelque peu givrée et dépourvue de fines lignes radiaires,
- une épaisseur et une orientation différentes des dents dans la charnière. Dans la valve gauche, une caractéristique distinctive est bien visible : la dent cardinale la plus proche de la fossette ligamentaire est étroite et orientée vers le bas chez *Bornia aartseni*, alors qu'elle est plus épaisse et orientée vers l'arrière chez *Bornia sebetia*.

Autrefois considérée comme une sous-espèce de *Bornia sebetia*, cette coquille a été élevée au rang d'espèce en 2012 par S. Gofas.

RÉCOLTES PERSONNELLES



Dans une laisse de mer récoltée en mai 2012 sur la plage de Monte Gordo (Algarve - Portugal) (Carte - n°1), un petit spécimen double (Fig. 1) et 4 valves séparées de *Bornia species* (2 VG et 2 VD) ont été isolés d'un groupe de valves plus grandes appartenant à *Bornia sebetia*. Ces spécimens présentaient des caractéristiques en tout point identiques aux coquilles de Benalmádena (Espagne - côte méditerranéenne) (Carte - n°3) : épaisseur et orientation d'une des dents cardinales de la valve gauche et taille des valves de la coquille.
Nous avons réexaminé tous nos lots de petits spécimens de *Bornia* récoltés en Algarve et en Andalousie atlantique. Une valve gauche en provenance de Mazagon (Andalousie - Espagne - Mai 2003) (Carte - n°2) a également été identifiée comme appartenant à *Bornia aartseni*.

CONCLUSION

L'aire de distribution de *Bornia aartseni* est élargie de l'Andalousie méditerranéenne à l'Andalousie atlantique et aux côtes adjacentes de l'Algarve. La petite taille de l'espèce et sa proximité avec *Bornia sebetia* laissent à penser qu'elle est passée relativement inaperçue jusqu'à ce jour.

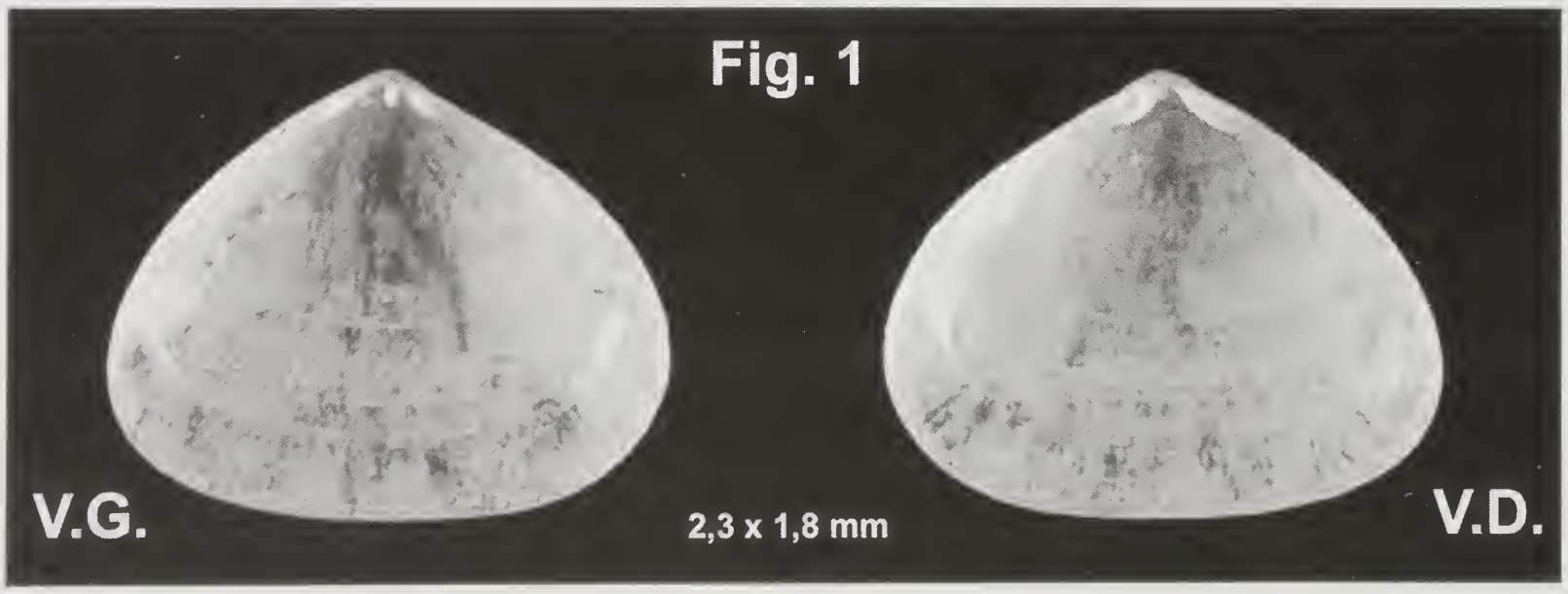
RÉFÉRENCES

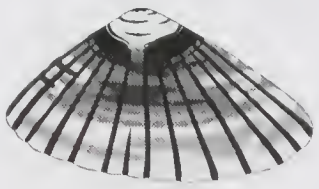
Gofas, S. Moreno, D. & Salas, C. (coords.) 2011. *Moluscos marinos de Andalucía.* Málaga: Servicio de Publicaciones e Intercambio Científico, Universidad de Málaga. Volumen II, pp. i-xii y : 343-798.

Gofas, S. 2012. A New Species of *Bornia* (Bivalvia - Galeommatoidea) from Southern Spain. *Iberus*, 30(2): 41-48.

van Aartsen, J.J. 1996. Galeommatacea and Cyamiacea. *La Conchiglia*, 279: 31-36.

van Aartsen, J.J. 1996. Galeommatacea and Cyamiacea - Part II. *La Conchiglia*, 281: 27-53.





L'écho des réunions

Marc ALEXANDRE

Réunion du 15 décembre 2012 (PC) → **Christiane Delongueville et Roland Scaillet : Richesse malacologique sur les côtes du détroit de Gibraltar**

Christianc ct Roland nous ont présenté une approchc intégrée du détroit de Gibraltar. Plus qu'un lieu géographique mythique, ce détroit (14 Km dans sa partie la plus étroitc) situé aux confins de l'Europe et de l'Afriquc occupc une position privilégiée entre les deux continents. Lc détroit est délimité en Atlantiquc par une ligne reliant lc cap Trafalgar en Espagne au cap Spartel au Maroc et en Méditerranée par une ligne reliant la Punta de Europa à Gibraltar à la Punta Almina à Ceuta au Maroc Espagnol.

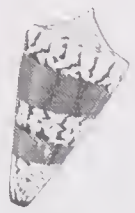
Pour en comprendre les particularités, il faut d'abord s'adresser à la géologie. Celle-ci nous apprend quand et comment s'est formé le détroit voici 5,6 millions d'années, lorsque la Méditerranée asséchée à l'époque et réduite à une cuvette d'évaporation s'est rouverte suite à la combinaison de différents facteurs qui ont amené à son remplissage en quelques dizaines d'années. La force colossale de l'eau pénétrant dans la cuvette méditerranéenne a sculpté le détroit tel que nous le connaissons à ce jour. Son histoire est écrite sur le profil de ses côtes et sur ses reliefs sous-marins.

Les échanges d'eaux entre l'Atlantique et la Méditerranée ont lieu dans ce goulot d'étranglement. L'eau de l'Atlantique pénètre en surface, alors que par le fond, l'eau de la Méditerranée plus salée, plus chaude et plus lourde s'écoule vers les profondeurs de l'Atlantique. Il est donc nécessaire de nuancer la question de savoir où commence la Méditerranée et où finit l'Atlantique ou inversement. Les limites géopolitiques ou géographiques ne suffisent pas pour répondre à cette question. Les phénomènes hydrologiques qui se produisent dans le détroit sont donc à l'origine de la particularité de la faune malacologique que l'on y trouve.

Courants, températures de l'eau, salinité, richesse en nutriments expliquent comment se comporte cette faune située au point de rencontre des zones zoogéographiques lusitanienne, mauritanienne et méditerranéenne. Elle comprend des espèces endémiques (pour autant que des relevés futurs n'en agrandissent pas l'aire de répartition), des espèces méditerranéennes ne franchissant pas le détroit à l'ouest, des espèces atlantiques ne franchissant pas le détroit à l'est et enfin des espèces qui se retrouvent de part et d'autre du détroit, tant en Méditerranée qu'en Atlantique.

Christiane et Roland nous ont fait partager tous ces aspects du détroit à l'aide d'un magnifique Power Point qui a mélangé, cartes, graphiques, courbes bathymétriques, photos des lieux et photos des coquilles qu'ils y ont récoltées au cours de leurs nombreuses campagnes de collectes tant sur les côtes espagnoles que marocaines. Encore une fois, nos amis nous ont fait partager de merveilleux moments et qui sait peut-être donné l'envie d'aller voir par nous même la beauté et la richesse de ces magnifiques paysages.

Merci à vous deux.



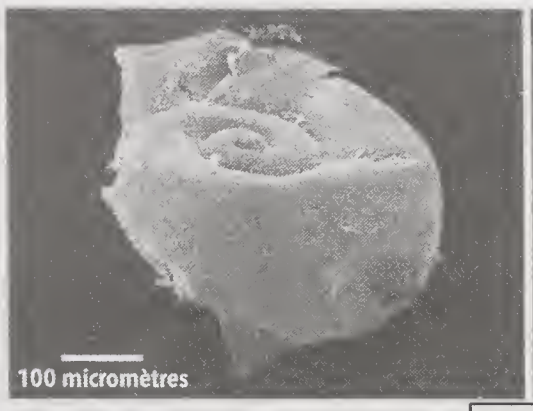
Morceaux choisis

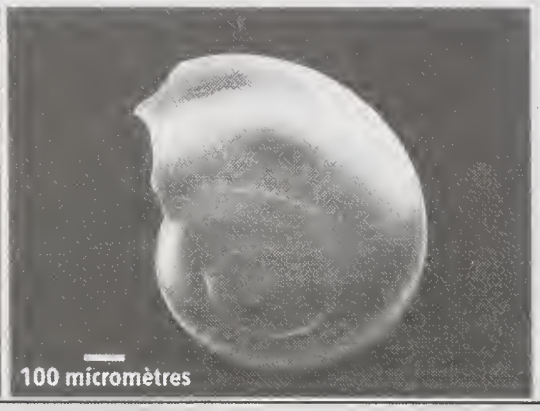
Claude VILVENS & Etienne MEULEMAN

La Recherche 472 février 2013

Dissolutions calcaires

Cette coquille observée au microscope électronique à balayage (à gauche) - appartenant au ptéropode *Limacina helicina antarctica* - a été prélevée à 200 mètres de profondeur dans l'océan Austral. Composée d'aragonite, forme de carbonate de calcium, elle montre déjà d'importants signes de corrosion comparée à une coquille intacte (à droite), comme vient de l'observer une équipe internationale. En cause ? L'acidification des océans, consécutive à la dissolution dans l'eau de mer d'une partie du dioxyde de carbone produit par les activités humaines. L'aragonite est en effet particulièrement sensible à l'acidité de l'eau de mer. A mesure que celle-ci augmente, la concentration des ions carbonate diminue, ce qui favorise la dissolution de l'aragonite, laquelle intervient dès 200 mètres. N Bednarsek *et al.*, *Ngeo*, doi:10.1038/ngeo1635, 2012.





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Journal Métro du 8 janvier 2013

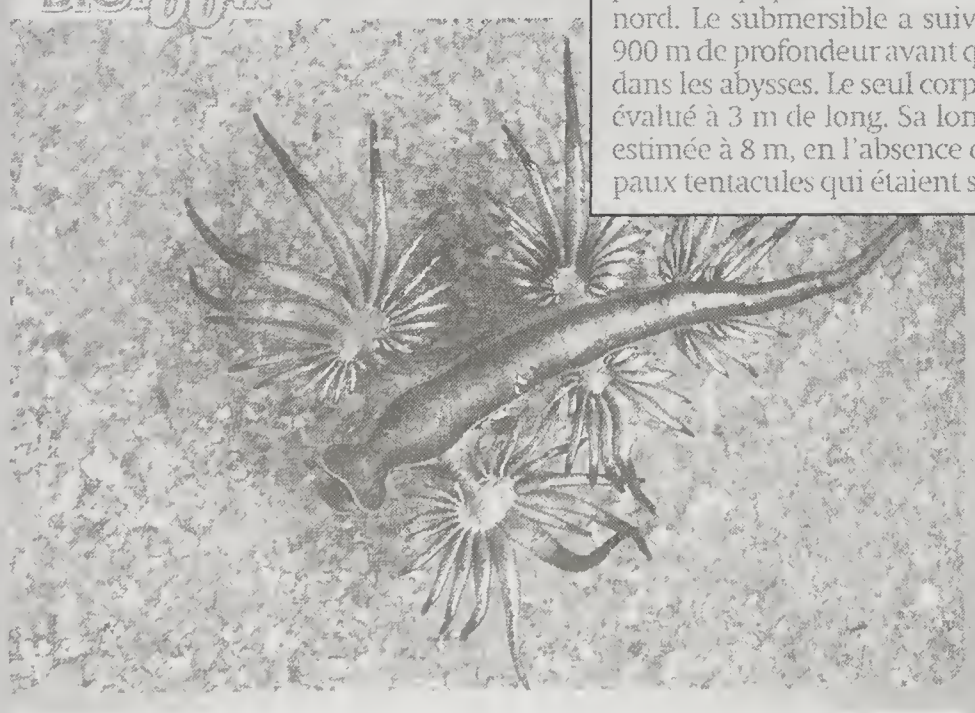
Calamar géant dans le Pacifique

TOKYO Des scientifiques et des chaînes de télévision japonaise et américaine ont annoncé hier avoir filmé pour la première fois un calamar géant par 900 m de fond dans l'océan Pacifique. L'animal mythique, de couleur argentée, a été filmé par une équipe du Musée scientifique national japonais en collaboration avec la chaîne de télévision publique japonaise NHK et la chaîne spécialisée Discovery Channel. Le calamar géant, dont le nom scientifique est architeuthis, a été repéré par 630 mètres de fond par une équipe en sous-marin dans le Pacifique nord. Le submersible a suivi le géant jusqu'à 900 m de profondeur avant qu'il ne disparaisse dans les abysses. Le seul corps du calamar a été évalué à 3 m de long. Sa longueur totale a été estimée à 8 m, en l'absence de ses deux principaux tentacules qui étaient sectionnés. ■

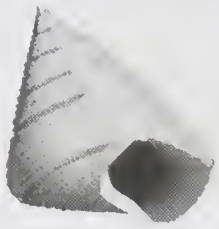
AFP / NHK / NEP / Discovery Channel

Athena 287 janvier 2013
(Service public de Wallonie)

BIOZOOM



Le Glaucus atlanticus est un mollusque gastéropode qui vit dans les eaux tempérées ou tropicales du monde entier. Il flotte juste en dessous de la surface de l'eau, ventre vers le haut. Il se nourrit principalement d'hydrozoaires, par exemple les Physalies (Voir Athena n° 284), desquels il tire son pouvoir urticant. Ce bel animal marin est hermaphrodite et mesure environ 35 mm.



Quoi de neuf ?

Claude VILVENS

Comme chaque année : la Bourse d'Antwerpen (Anvers) de la BVC !

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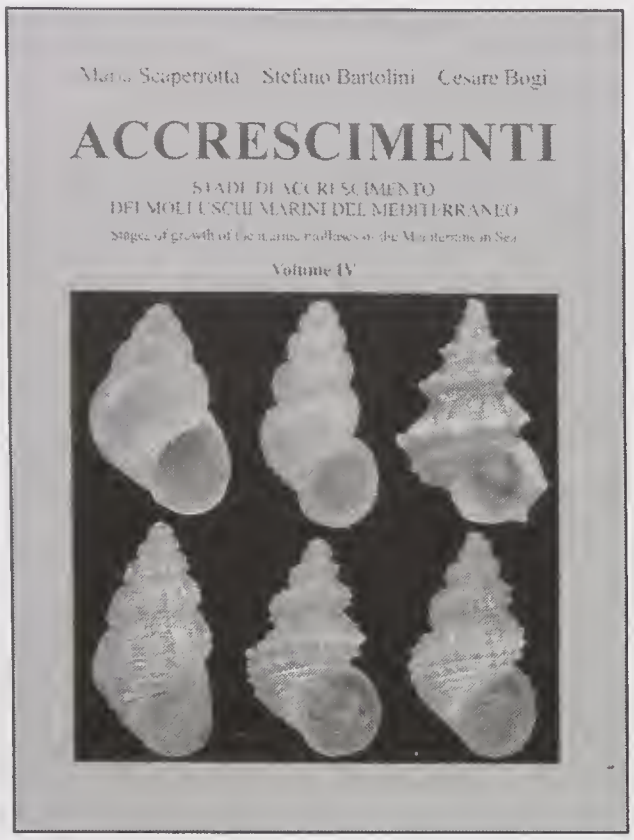


Cela devient quasi une tradition. Chaque année voit paraître un volume supplémentaire d'un Opus commencé en 2009 : « **Accrescimenti - Stadi di accrescimento dei molluschi marini del Mediterraneo** ».

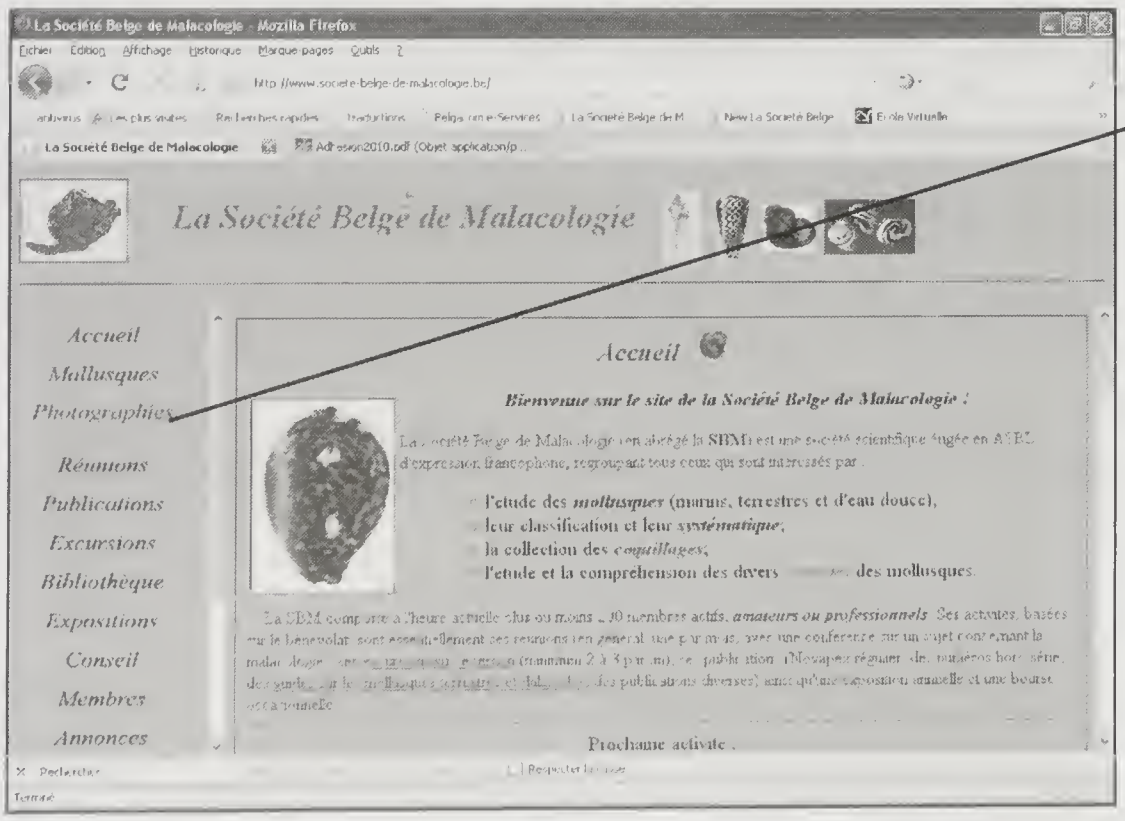
2012 nous apporte donc le quatrième tome de la série. Ce nouveau millésime illustre 130 nouvelles espèces, ce qui porte à ce jour à 376, 131 et 1 respectivement le nombre de gastéropodes, bivalves et scaphopodes traités. Le principe reste toujours le même. En cinq ou six représentations, le portrait de l'espèce abordée est brossé, du stade juvénile à l'adulte. Cette démarche révèle parfois des surprises, tant les premiers stades de croissance d'un individu peuvent être différents de sa forme finale. Cela ravit à chaque fois ma curiosité de zoologiste et cela facilite également grandement mes activités de détermination comme collectionneur de petit matériel glané ça et là sur une plage, dans un port, ou sur le pont d'une barque.

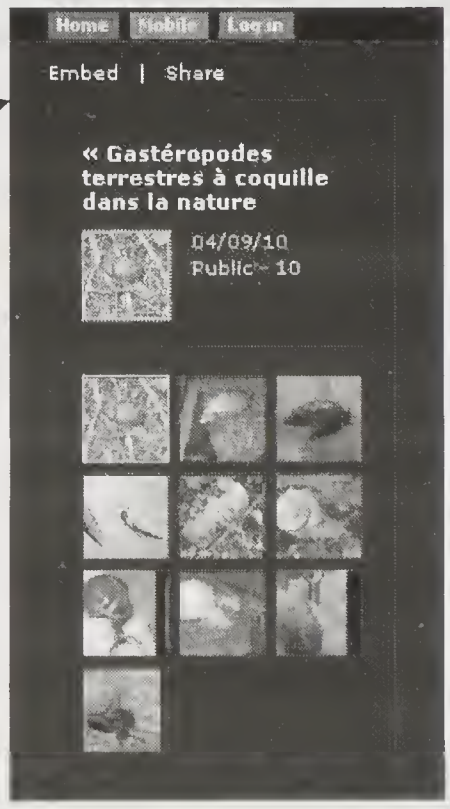
Pour chaque taxon spécifique, la liste systématique des espèces illustrées à ce jour publiée en début d'ouvrage renvoie le lecteur au volume correspondant. Si l'Italien n'est pas votre langue maternelle, il n'y a aucun problème. La fiche technique se rapportant à chaque espèce est traduite en anglais en fin de volume.

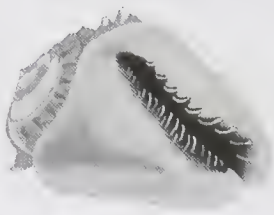
Les auteurs l'annoncent, un cinquième tome est en préparation. Je me réjouis à l'avance de ce que la cuvée 2013 nous apportera. **Maria Scaperrotta, Stefano Bartolini et Cesare Bogi,** continuez donc à nous émerveiller, tant d'espèces restent encore à illustrer. Merci pour cette précieuse contribution à l'essor de la Malacologie.

Avis aux amateurs et bonne lecture.

Roland Scaillet







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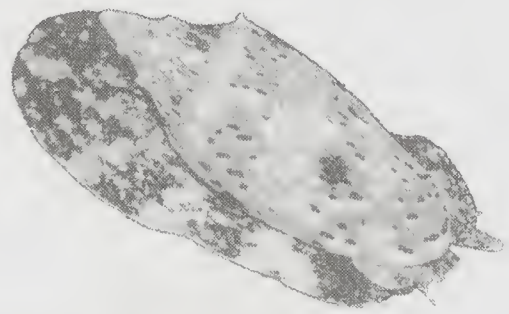

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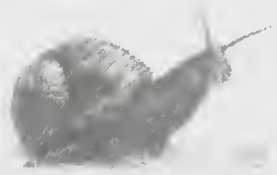

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Grandes marées de l'année 2013

Christiane DELONGUEVILLE et Roland SCAILLET

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Coefficients (> 100) des pleines mers à Brest

(Les marées basses correspondantes sont donc particulièrement intéressantes à prospecter)

Janvier	Samedi 12	102 - 104
	Dimanche 13	106 - 106
	Lundi 14	104 - 102

Février	Dimanche 10	100 - 104
	Lundi 11	106 - 107
	Mardi 12	106 - 104
	Mercredi 13	101 - (97)
	Jeudi 28	100 - (99)

Mars	Lundi 11	(97) - 100
	Mardi 12	102 - 103
	Mercredi 13	103 - 101
	Mercredi 27	(96) - 100
	Jeudi 28	103 - 104
	Vendredi 29	105 - 104
	Samedi 30	102 - (99)

Avril	Vendredi 26	103 - 105
	Samedi 27	106 - 105
	Dimanche 28	104 - 101

Mai	Samedi 25	(99) - 102
	Dimanche 26	104 - 104
	Lundi 27	104 - 102

Juin	Lundi 24	102 - 104
	Mardi 25	105 - 104
	Mercredi 26	103 - 100

Juillet	Mardi 23	102 - 105
	Mercredi 24	107 - 108
	Jeudi 25	107 - 104
	Vendredi 26	100 - (95)

Août	Mercredi 21	103 - 106
	Jeudi 22	108 - 109
	Vendredi 23	108 - 105
	Samedi 24	101 - (96)

Septembre	Jeudi 19	101 - 104
	Vendredi 20	105 - 105
	Samedi 21	104 - 101

Octobre	-	-

Novembre	Lundi 4	(99) - 101
	Mardi 5	101 - 100

Décembre	Mardi 3	(98) - 101
	Mercredi 4	102 - 103
	Jeudi 5	102 - 100

Beaucoup de marées intéressantes auront lieu durant le week-end. Il est à espérer que les pêcheurs à pied seront plus respectueux de l'environnement que ce que nous avons pu observer l'année passée en Bretagne.

Conseils pour une marée réussie et soucieuse de l'environnement : Remettez toujours les pierres déplacées en bon ordre. Observez, photographiez et n'échantillonnez que le strict nécessaire. Soyez prudents et renseignez-vous sur les heures des marées à l'endroit où vous vous trouvez.

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Annuaire des Marées pour l'année 2013 - Ports de France - Métropole - Tome 1 - SHOM (Service Hydrographique et Océanographique de la Marine) - *Paris - 257 p.*

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Revised classification of a group of small species of *Cytharomorula* Kuroda, 1953 (Muricidae: Ergalataxinae) from the Indo-West Pacific

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Keywords. Gastropoda, Muricidae, Ergalataxinae, *Cytharomorula*, Indo-West Pacific.

Abstract. Five similar looking species of Muricidae from the Indo-West Pacific are reviewed, illustrated and commented: *Cytharomorula ambonensis* (Houart, 1996), *C. benedicta* (Melvill & Standen, 1895), *C. dollfusi* (Lamy, 1938), *C. lefevreiana* (Tapparone Canefri, 1880)) and *C. paucimaculata* (Sowerby, 1903). The type material is illustrated for all the species. A lectotype is designated for *Cytharomorula lefevreiana*. The radula morphology is described.

Résumé. Cinq espèces de Muricidae morphologiquement très proches, vivant dans l'Indo-Pacifique occidental, sont révisées, illustrées et commentées: *Cytharomorula ambonensis* (Houart, 1996), *C. benedicta* (Melvill & Standen, 1895), *C. dollfusi* (Lamy, 1938), *C. lefevreiana* (Tapparone Canefri, 1880) et *C. paucimaculata* (Sowerby, 1903). Le matériel type est illustré pour toutes les espèces. Un lectotype est désigné pour *Cytharomorula lefevreiana*. La morphologie de la radula est décrite.

INTRODUCTION

A small group of tiny muricid species occurring in the Indo-West Pacific and here reviewed includes only five species, but these were once classified in several genera, occasionally misidentified, and are still little known, except for a more common species found mainly in the Philippine Islands but occurring worldwide.

None of these species is really rare except *Cytharomorula paucimaculata* from Japan of which few specimens are currently known. In this group of species not only the genus, but also the synonymy differs between published works. That was the reason for studying this group very carefully and to clear up its classification.

All the types were examined as well as an impressive number of specimens studied throughout the years.

The terminology used to describe the spiral cord configuration follows Merle (1999, 2001) and is illustrated in Figs 4-6. **P1:** shoulder cord; **P2-P6:** primary cords of the convex part of the teleoconch whorl.

Material and methods

Much of the material examined was collected during the expeditions conducted by MNHN and IRD (formerly ORSTOM) in the Tropical Indo-Pacific. Specimens were collected during following cruises: MD32 (1982) in Reunion, MONTROUZIER (1993) in New Caledonia, MUSORSTOM 9 (1997) in The Marquesas Islands, SUVA 4 (1999) in Fiji, ATELIER LIFOU (2000) in New Caledonia, PANGLAO 2004 (2004) in the Philippines, SANTO (2006) in Vanuatu, SALOMONBOA 3 (2007) in the Solomon Islands and ATIMO VATAE (2010) in Madagascar. Other studied species belong to the author's collection. All the specimens are listed and were examined by the author. No mention of living or empty shell is given, mostly because in many cases it was quite impossible to decide whether the shell was collected dead or alive, the living specimens having their operculum deeply retracted inside of the shell. However, the species live in depths of 3-20 m, except *C. lefevreiana* for which specimens, rarely collected alive in the examined samples, were dredged in 55-73 m and *C. dollfusi* which is usually dredged in tangle nets with shell grit, in 50-150 m in the Philippine Islands.

The complete data is given for many stations of the MNHN-IRD expeditions, but when there is an extensive list of stations only the name of the expedition and the number of the station is given. The number of examined specimens is mentioned between brackets for all the samples.

Additional references are added only when it concerns a misidentification.

Abbreviations

IRD: Institut de Recherche pour le Développement.
MNHN: Muséum national d'Histoire naturelle, Paris, France.
MZUF: Museo di Storia Naturale, Sezione di Zoologia "La Specola", Università di Firenze, Italy.
NHMUK: Natural History Museum, London, United Kingdom.

ORSTOM: Office de la Recherche Scientifique et Technique Outre-Mer.
RH: collection of the author.
RMNH: Nationaal Natuurhistorisch Museum, Leiden, the Netherlands (now in Naturalis Biodiversity Center, Leiden, the Netherlands).

Discussion

In a recent paper (Claremont *et al.*, 2013), a subclade contains nominal species of *Pascula*, *Orania* and *Cytharomorula*. Based on the species included in their study, all these genera, as currently defined, are polyphyletic. It is possible that the entire clade should be assigned to one genus, but because the oldest name is *Orania* (type species not yet included in the analyses), followed by *Pascula* (type species not yet included in the analyses), then *Cytharomorula*, the authors were unable to determine which name to propose. Pending a complete revision of this subclade, they conservatively retained all species in the genera to which they were previously assigned. Only *C. dollfusi* is included in their molecular analyses (as *Cytharomorula paucimaculata*). This misidentification is strictly my fault because this was the name I used for the Philippine shell before the present review was undertaken.

My decision to maintain these species in *Cytharomorula* while one or more species included in the present study were once classified in *Pascula* (Cernohorsky, 1982, Tröndlé & Houart, 1992, Houart, 1995, Higo, Callomon & Gotō, 1999, Tsuchiya, 2000, Mienis, 2003, Heiman & Mienis, 2003, Houart, 2008) or in *Cytharomorula* (Houart, 2008, Houart & Tröndlé, 2008, Houart & Héros, 2008, Houart & Gofas, 2012, Claremont *et al.*, in press), is also based on this molecular study. I decided to retain these species in *Cytharomorula* as was done in the more recent papers.

The most recent classification known of these species was submitted as follows by Houart and Gofas (2012) (WoRMS):
Cytharomorula ambonensis (Houart, 1996).
Cytharomorula lefevreiana (Tapparone Canefri, 1880)
=*Murex* (*Ocinebra*) *benedictus* Melvill & Standen, 1895.
Cytharomorula paucimaculata (Sowerby, 1903)
= *Murex dollfusi* Lamy, 1938.

The updated classification after examination of the type material and of specimens originating from throughout their geographical distribution looks now as follows:
Cytharomorula ambonensis (Houart, 1996).
Cytharomorula benedicta (Melvill & Standen, 1895).
Cytharomorula dollfusi (Lamy, 1938).
Cytharomorula lefevreiana (Tapparone Canefri, 1880).
Cytharomorula paucimaculata (Sowerby, 1903).

SYSTEMATICS

Family **MURICIDAE** Rafinesque, 1815
Subfamily **ERGALATAXINAE** Kuroda, Habe & Oyama, 1971
Genus ***Cytharomorula*** Kuroda, 1953
Type species by monotypy: *Cytharomorula vexillum* Kuroda, 1953, Japan.

Description of this group. Shell small, up to 12 mm in length at maturity, lanceolate, narrow, nodose. Subsutural ramp broad, strongly sloping. Spire high with 3.5-4.5 protoconch whorls and teleoconch of up to 5 weakly convex, shouldered, nodose whorls. Protoconch conical, with sinusigeral notch, whorls smooth (Fig. 7).
Axial sculpture of last teleoconch whorl consisting of 7-10 low or moderately high ribs and varices, crossed by primary, secondary and tertiary spiral cords, P1-P3 high, broad and obvious, P3 usually strongest, P4 smaller, narrow, P5 and P6 very small or obsolete. Intersection of axial and spiral cords giving rise to small nodes or broad, low, open spinelets.
Aperture small, ovate. Columellar lip narrow, occasionally with 2 or 3 knobs abapically, with low parietal tooth at adapical extremity. Outer lip with weak or strong, occasionally split, broad or elongate denticles within. Siphonal canal very short, dorsally recurved, with P5 and P6.
Operculum light brown, ovate-elongate with subapical nucleus.
Three-dimensional radula (Figs 1-3) with rachidian tooth bearing a long, narrow, prominent central cusp, a single small lateral denticle, a short, relatively broad lateral cusp and occasionally few marginal folds. Lateral tooth sickle-shaped with broad base.

Cytharomorula ambonensis (Houart, 1996)
Figs 2-3, 4, 8-9, 14-19

Pascula ambonensis Houart, 1996: 383, figs 17-18.

Additional reference

Pascula lefevreiana – Houart, 2008: 204, pl. 397, figs 1a, 1b (not *Tritonidea lefevreiana* Tapparone Canefri, 1880).

Type material. Holotype RMNH 57155.

Type locality. Indonesia, Ambon Id, Hitu, Suli, in sand, near coral.

Other material examined. Mozambique: Quissimajula, N Mozambique, 2-3 m, in sand and coral, RH (4); Nacala Bay, dived in 2-4 m, RH (6); Nacala Bay, dived in 2-3 m, RH (3); Fcrñao Veloso Bay, 3-4 m, in dead coral, RH (1); **Madagascar.** Tulear, MNHN (2); ATIMO VATAE, stn TB01, MNHN (1); stn TS02, MNHN (1); stn TS03, MNHN (1); stn TS04, MNHN

(1); stn TV07, MNHN (2); stn TS17, MNHN (1); stn BP41, MNHN (1); **Maldives**: Maagau Kandu, Ari Atoll, 20-25 m, RH (1); **Papua New Guinea**: Hansa Bay (Madang Province) Laing Island, RH (1); **Philippines**: PANGLAO 2004, stn S1, MNHN (4); stn B5, MNHN (1); stn B7, MNHN (1 lv); stn B10, MNHN (1); stn B13, MNHN; stn S32, MNHN (1); stn B37, MNHN (1); stn B39, MNHN (2); stn L50, MNHN (1) **Vanuatu**: SANTOS, stn ZB06, MNHN (3); stn DB08, MNHN (3); stn ZB09, MNHN (4); stn FS51, MNHN (1); stn FB92, MNHN (1); **New Caledonia**: ATELIER LIFOU, Loyalty Islands, Lifou, stn 1457, MNHN (8); 20°47' S, 167°03' E, 5-10 m, MNHN IM-2010-21107 (2); **Marquesas**: Motu One, MUSORSTOM 9, stn DW1291, 7°48' S, 140°21' W, 450-455 m, MNHN (1).

Distribution. Mozambique, Madagascar, Maldives, Indonesia (Ambon Island and Papua New Guinea), Philippines, Vanuatu, New Caledonia and French Polynesia (Marquesas).

Remarks. *Cytharomorula ambonensis* is a small, spiny species reaching 6-10 mm in length. It differs from *C. benedicta* in having a more spiny appearance and in having a relatively larger shell for the same number of teleoconch whorls, reaching a length of 10 mm *vs* 8 mm in *C. benedicta*; the primary spiral cords are broader and higher, moreover, P1-P3 are of an almost similar strength in *C. ambonensis* while P1 and P2 are much narrower and lower than P3 in *C. benedicta*; the secondary spiral cords between P1 and P2, and P2 and P3 are broader and less numerous, 2 or 3 cords in *C. ambonensis vs* 3-6 in *C. benedicta*; the primary spiral cords P5 and P6 are also broader and higher in *C. ambonensis* while the P4 cord is smaller but still much stronger than the P4-P6 cords in *C. benedicta*; the area between P3 and P6 in *C. ambonensis* is also less concave than in *C. benedicta*.
The colour also differs, being whitish with some dark brown secondary spiral cords and occasionally dark blotches on the primary cords in *C. ambonensis vs* having brown blotches on the subsutural ramp and between P3 and P6 in *C. benedicta*.
Cytharomorula ambonensis is sympatric with *C. benedicta* and *C. paucimaculata* in New Caledonia and Guam and with *C. paucimaculata* in the Philippines.

Cytharomorula benedicta (Melvill & Standen, 1895)
Figs 1, 6-7, 20-26

Murex (*Ocinebra*) *benedictus* Melvill & Standen, 1895: 108, pl. 2, fig. 13.

Additional references

Pascula lefevreiana — Houart, 1995: 274, fig. 142; Tsuchiya, K. 2000: 385, fig. 105 (not *Tritonidea lefevreiana* Tapparone Canefri, 1880).
Cytharomorula lefevreiana — Houart, 2011: 280, fig. 6 (not *Tritonidea lefevreiana* Tapparone Canefri, 1880).
NOT *Pascula benedicta* — Cernohorsky, 1982: fig. 20 only (= *Tritonidea lefevreiana* Tapparone Canefri, 1880).

Type material. Lectotype Manchester Mus. EE.3708, (originally figured specimen. See also remarks) and 18 paralectotypes, Manchester Mus. E.7667, EE.7668, EE.7669 and EE.8115.

Type locality. Lifou, in shell-sand.

Other material examined. New Caledonia. EXPEDITION MONTROUZIER, Touho, stn 1237, MNHN (1); stn 1240, MNHN (2); stn 1245, MNHN (7); stn 1255, MNHN (2); stn 1259, MNHN (7); stn 1260, MNHN (1); stn 1261, MNHN (4); stn 1268, MNHN (1); stn 1269, MNHN (23); stn 1270, MNHN (7); stn 1271, MNHN (12); stn 1273, MNHN (7); Koumac, stn 1302, MNHN (2); stn 1308, MNHN (1); stn 1310, MNHN (1); stn 1311, MNHN (5); stn 1312, MNHN (5); stn 1315, MNHN (5); stn 1316, MNHN (26); stn 1318, MNHN (18); stn 1319, MNHN (17); stn 1331, MNHN (16); stn 1333, MNHN (1); ATELIER LIFOU, Loyalty Islands, Lifou, stn 1413, MNHN (1); stn 1420, MNHN (9); stn 1421, MNHN (2); stn 1422, MNHN (1); stn 1423, MNHN (3); stn 1425, MNHN (7); stn 1427, MNHN (4); stn 1429, MNHN (16); stn 1430, MNHN (1); stn 1432, MNHN (26); stn 1434, MNHN (2); stn 1432, MNHN (15); stn 1436, MNHN (8); stn 1438, MNHN (1); stn 1441, MNHN (4); stn 1442, MNHN (4); stn 1443, MNHN (2); stn 1444, MNHN (4); stn 1446, MNHN (3); stn 1449, MNHN (3); stn 1450, MNHN (7); stn 1451, MNHN (21); stn 1453, MNHN (4); stn 1454, MNHN (14); stn 1455, MNHN (1); stn 1456, MNHN (3); stn 1457, MNHN (4); stn 1459, MNHN (2); Lifou (without any other data), MNHN (58); Touho, 15-20 m, RH (5); Koumac, 15-20 m, RH (2); **Vanuatu.** SANTO, stn DS06, MNHN (1); stn ZB06, MNHN (1); stn DB08, MNHN (1); stn ZB09, MNHN (1); stn DB12, MNHN (2); stn ZB20, MNHN (1); stn DB33, MNHN (1); stn DB63, MNHN (2); stn FB64, MNHN (2); **Guam.** W of Cocos Island, among dead coral, 19-28 m, RH (1).

Distribution. New Caledonia (Lifou and Koumac), Vanuatu, Guam, Japan (Kii Peninsula and southward) (Tsuchiya, K. 2000, as *Pascula lefevreiana*), French Polynesia (Tuamotu Archipelago) (Cernohorsky, 1982), and Hawaii (Houart, 2011, as *Pascula lefevreiana*).

Remarks. This species is only known from a few localities but it probably lives in other parts of the Western and Central Pacific, maybe overlooked due to its small size and less known subfamily. It was confused with and illustrated as *C. lefevreiana* in a few publication. See under *C. lefevreiana* for a comparison with that species.
Cernohorsky (1982: 128), in a study of some Indo-Pacific Mollusca, classified *C. benedicta* in *Pascula*, he illustrated the lectotype of *C. benedicta* (Cernohorsky,

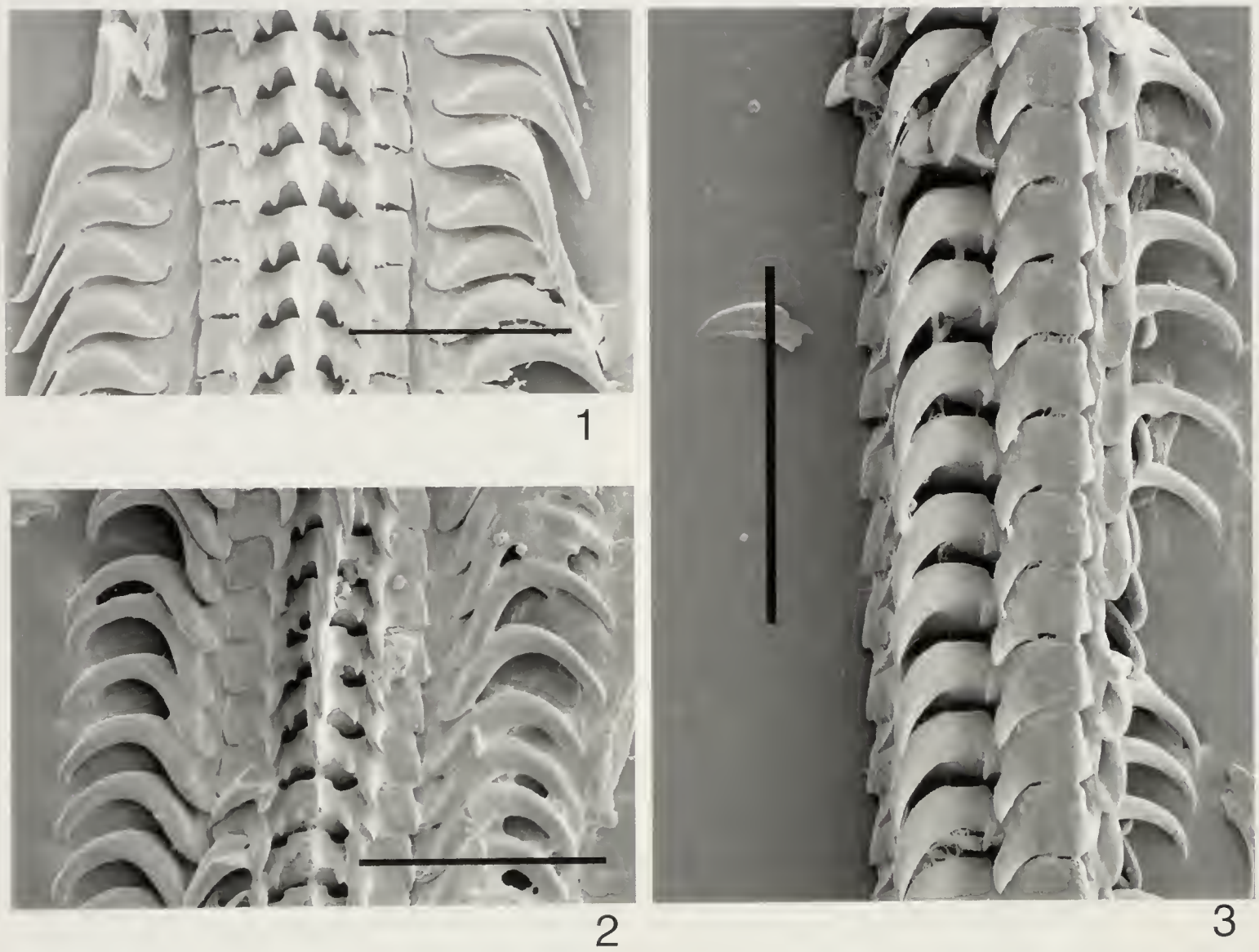
1982: figs 12-13) and the holotype of *C. paucimaculata* (figs 18-19) but he synonymised both names. He figured the lectotype of *C. benedicta* as being the holotype, but no holotype was designated by the authors, while there are 18 other "possible" syntypes in the Manchester Museum (Machin, in litt.). In fact, Melvill & Standen (1895: 108) noted "A very small but exquisite shell of which we have only seen one full-grown specimen". This sentence implies that there were other specimens examined by the authors but that none of those were full-grown.

Therefore, in accordance with ICZN (Art. 74.6) the specimen figured by Cernohorsky (1982) as being the holotype is deemed to have been designated as the lectotype (Figs 20-21).

Cernohorsky (1982: fig. 20) also illustrated a slenderer specimen from an unknown locality, from the National Museum of Wales. This specimen is not *C. benedicta* but *C. lefevreiana* which is narrower and slenderer with lower apertural denticles, fewer cords on the subsutural ramp, a lower and less obvious P3 spiral cord and a less concave area between P3 and P6 as observed in Cernohorsky's figure 20. Cernorhorsky's figure 21 on the same plate is another species currently known as *Pascula darrosensis* (E.A. Smith, 1884).

The shell illustrated by Tröndlé & Houart (1992: 87, fig. 45) is misidentified, see Houart & Tröndlé (2008: 71). Nevertheless, the presence of *C. benedicta* in French Polynesia is confirmed by Cernohorsky (1982: 128, figs 14-15).

Also see under *C. paucimaculata* for a comparison with that species.



Figures 1-3. Radulae

1. *Cytharomorula benedicta* (scale bar 50 µm); **2-3.** *Cytharomorula ambonensis* (Houart, 1996) (scale bars 100 µm).

Cytharomorula dollfusi (Lamy, 1938)
Figs 33-40

Murex dollfusi Lamy, 1938: 54, fig. 1.

Additional reference

Cytharomorula pancimaculata — Houart, 2008: 198, pl. 394, figs 2-5; Houart & Héros, 2008: 459 (not *Pentadactylus paucimaculatus* Sowerby, 1903).

Type material. Holotype MNHN 0103.

Type locality. Jubal Island (Juzur Jabal, 27°40' N, 33°48' E, Egypt).

Other material examined. Madagascar. ATIMO VATAE, stn DW3606, MNHN (1); **Maldives.** Maagau Kandu, Ari Atoll, 20-25 m, RH (1); **Philippines.** PANGLAO 2004, stn P1, MNHN (3); stn S1, MNHN (12); stn R3, MNHN (3); stn P4, MNHN (64); stn B7, MNHN (2); stn S1, MNHN (11); stn T11, MNHN (3); stn B10, MNHN (7); stn B12, MNHN (2); stn B14, MNHN (1); stn B15, MNHN (2); stn B16, MNHN (4); stn B17, MNHN (2); stn B19, MNHN (2); stn B21, MNHN (2); stn B24, MNHN (2); stn B25, MNHN (1); stn B28, MNHN (1); stn S28, MNHN (6); stn S1, MNHN (1); stn B32, MNHN (2); stn B36, MNHN (5); stn B37, MNHN (4); stn B38, MNHN (2); stn B39, MNHN (7); stn B40, MNHN (4); stn B41, MNHN (3); stn L41, MNHN (1); stn B42, MNHN (10); stn L42, MNHN (2); stn L46, MNHN (29); stn L50, MNHN (3); stn L51-60, MNHN (27); stn L65-68, MNHN (5); stn L69-73, MNHN (14); stn L74-75, MNHN (9); stn L76, MNHN (213); stn L79, MNHN (11). Between Bohol and Cebu, 50-100, local fishermen, MNHN (117); Panglao, 80 m, RH (13); Cebu, Mactan Island, Punta Engaño, in tangle nets, RH (43); Balut, RH (1); Between Bohol and Cebu, 50-150 m, RH (3); Bohol, tangle nets, RH (9); Sulu Sea, RH (61); Balicasag Island, 160 m, rocky sand bottom, RH (1); S Mindanao, Aliguay, Dipolog, 150-180 m, tangle nets, RH (8); **New Caledonia.** ATELIER LIFOU, Loyalty Islands, Lifou, stn 1435, MNHN (1); stn 1465, MNHN (1); **Vanuatu.** SANTO, stn ZB13, MNHN (1); stn FB68, MNHN (1); stn DS99, MNHN (1); stn DS103, MNHN (9); mixed, MNHN (1); **Solomon Islands.** W San Cristobal, SALOMONBOA 3, 10°25' S, 161°22' E, 121-180 m, MNHN (1); **Fiji.** SUVA 4, stn DW 09, 18°21'S, 178°06'E, 37-41 m MNHN (1); stn DW 12, 18°21'S, 178°10'E, 39 m, MNHN (1); stn DW 25, 18°27'S, 178°01'E, 48-51 m, MNHN (1); **French Polynesia.** Marquesas, MUSORSTOM 9, stn DW1148, MNHN (1); stn DW1154, MNHN (3); stn DW1170, MNHN (1); stn CP1177, MNHN (1); stn CP1178, MNHN (1); stn DR1182, MNHN (2); stn DR1200, MNHN (8); stn DW1204, MNHN (8); stn DW1208, MNHN (1); stn DW1210, MNHN (3); stn DR1223, MNHN (1); stn DW1224, MNHN (3); stn CP1228, MNHN (1); stn DW1242, MNHN (2); stn DR1315, MNHN (3); Austral Archipelago, BENTHAUS, stn DW1869, 28°58' S, 140°15' W, 40-440 m, MNHN (2); DW1926, 24°38' S, 146°00' W, 50-90 m, MNHN (2); DW1952, 23°49' S, 147°53' W, 300-372 m, MNHN (1); DW1959, 23°19' S, 149°30' W, 95-380 m, MNHN (1); DW1996, 22°29' S, 151°22' W, 489-1050 m, MNHN (1); DW2013, 22°39' S, 152°50' W, 80- 93 m, MNHN (2).

Distribution. Red Sea (type locality), Madagascar, Maldives, Philippine Islands, New Caledonia, Solomon Islands, Fiji, French Polynesia (The Marquesas and the Austral Archipelago).

Remarks. *Cytharomorula dollfusi* was incorrectly synonymised with *C. benedicta* by Tröndlé & Houart (1992: 87, fig. 45). Mienis (2003) and Heiman and Mienis (2003) illustrated a specimen from the Gulf of Aqaba with its correct name.
See under *C. pancimaculata* for a comparison with that species.

Cytharomorula lefevreiana (Tapparone Canefri, 1880
Text Fig. 1, Figs 5, 27-32

Tritonidea lefevreiana Tapparone Canefri, 1880: 65, pl. 3, figs. 7-8.

Additional references

Pascula benedicta — Cernohorsky, 1982: fig. 20 only (not *Murex benedictus* Melvill & Standen, 1895).
Morula squamilirata — Jarrett, 2000: 60, fig. 247 (not *Sistrum squamiliratum* E.A. Smith, 1903).
NOT *Pascula lefevreiana* — Houart, 1995: 274, fig. 142; Tsuchiya, K. 2000: 385, fig. 105 (= *Murex benedictus* Melvill & Standen, 1895).
NOT *Pascula lefevreiana* – Houart, 2008: 204, pl. 397, figs 1a, 1b (= *Pascula ambonensis* Houart, 1996).
NOT *Cytharomorula lefevreiana* — Houart, 2011: 280, fig. 6 (= *Murex benedictus* Melvill & Standen, 1895).

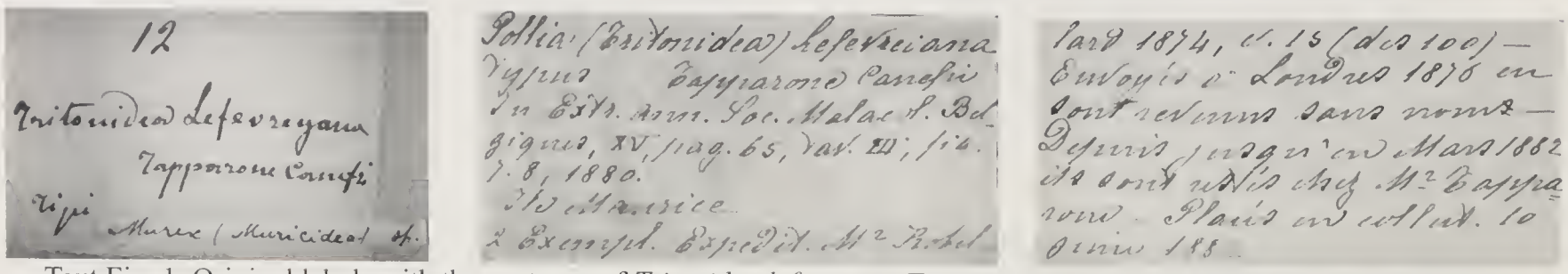
Type material. Two syntypes MZUF 24524, here selected as lectotype MZUF 24524/1 and paralectotypes MZUF 24524/2.

Type locality. Mauritius.

Other material examined. Reunion. MD32, stn DC26, 21°22' S, 55°46' E, 310m, MNHN (1); stn DC41, 21°21' S, 55°27' E, 75m, MNHN (3); stn CP43, 21°21' S, 55°27'E, 73-77m, MNHN (1); stn DR47, 21°23'S, 55°36'E, 205-215 m, MNHN (4); stn DC56, 21°05'S, 55°12'E, 170-225m, MNHN (10); stn DC85, 20°59'S, 55°15'E, 58-70m, MNHN (47); stn DC86 20°59'S, 55°15'E, 75-90m, MNHN (1); stn CP97, 19°41'S, 54°09'E, 55m, MNHN (1); Reunion, Saline, 5-20 m, MNHN (1); Reunion (no other data) (5), RH; **Mauritius.** ex coll. Jousseaume (5), MNHN.

Distribution. Seychelles (Jarrett, 2000, as *Morula squamilirata*), Mauritius and Reunion.

Remarks. *Cytharomorula lefevreiana* differs from *C. benedicta* in being narrower and slenderer. The secondary and tertiary spiral cords are broader in *C. lefevreiana* and less numerous. The subsutural ramp is less concave with fewer and broader spiral sculpture, 3 or 4 cords in *C. lefevreiana vs* 5 or 6 in *C. benedicta*. There are also fewer spiral cords between P1 and P2: 2 in *C. lefevreiana vs* 3 in *C. benedicta*, and between P2 and P3: 2 or 3 in *P. lefevreiana vs* 4-6 in *C. benedicta*. The area between P3 and P6 is less concave than in *C. benedicta*.
Cytharomorula lefevreiana is correctly identified and illustrated by Drivas & Jay (1988: 72, pl. 21, fig. 16). Another specimen was illustrated as *Pascula benedicta* by Cernohorsky (1982) (see under *C. benedicta*).



Text Fig. 1. Original labels with the syntypes of *Tritonidea lefevreiana* Tapparone Canefri, 1880 (photos Saulo Bambi)

Cytharomorula paucimaculata (Sowerby, 1903)
Figs 10-13

Pentadactylus paucimaculatus Sowerby, 1903: 496.

Additional reference

NOT *Cytharomorula paucimaculata* — Houart, 2008: 198, pl. 394, figs 2-5; Houart & Héros, 2008: 459 (= *Murex dollfusi* Lamy, 1938).

Type material. Holotype NHMUK 1903.12.7.8

Type locality. Hachijojima (Hachijojima Island), Japan.

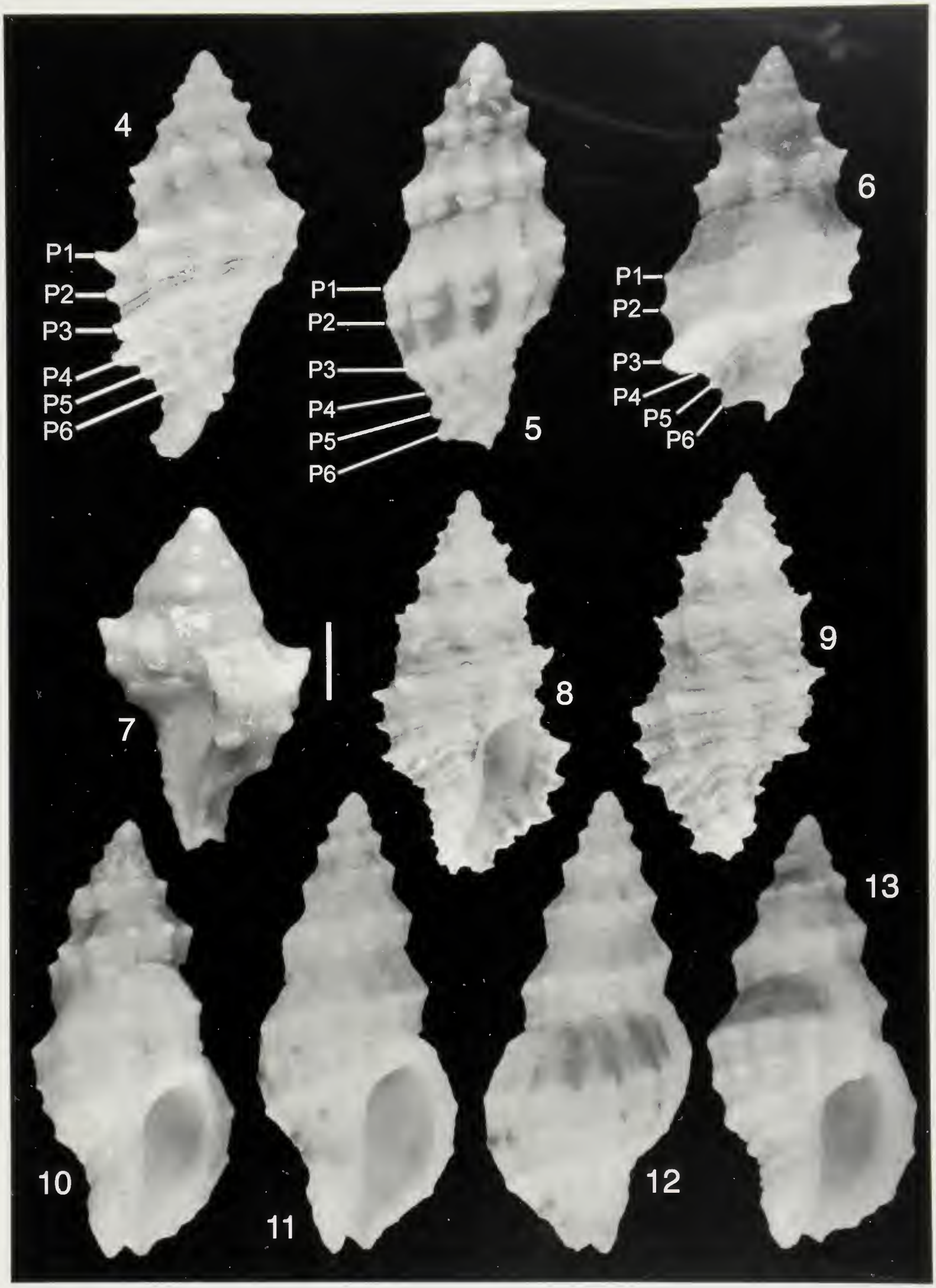
Other material examined. Japan, Okinawa, Seragaki, 19-25 m, under rocks, RH (2).

Distribution. Currently known from Japan in two localities: Seragaki (Okinawa) and Hachijojoma Island (east of Central Japan) (type locality).

Remarks. *Cytharomorula paucimaculata* differs from *C. dollfusi* in having a relatively broader shell with a broader, less elongate aperture, a comparatively shorter and broader siphonal canal and a higher spire. The primary spiral cords are broader, almost of a same strength, while the P3 cord is usually weakly higher and stronger than P1 and P2 in *C. dollfusi*. The secondary and the tertiary cords are also broader and less numerous in *C. paucimaculata*.
The colour also differs, *C. paucimaculata* having a subsutural ramp with broad, light or dark brown coloured blotches, somewhat like in *C. benedicta*, and occasionally some brown dots on or between the primary spiral cords. *C. dollfusi* is usually uniformly light tan, rarely with some darker dots on and between the primary spiral cords.
The holotype of *C. paucimaculata* was illustrated by Kaicher (1980: card 2542) as *Evokesia paucimaculata* and by Cernohorsky (1982: 129, figs 18-19) as *Pascula benedicta* forma *paucimaculata*. However, *C. paucimaculata* differs from *C. benedicta* in having a comparatively larger shell with a higher spire, a broader aperture, a broader and shorter siphonal canal relative to the shell length, in having smaller and lower apertural denticles and in the P1-P4 spiral cords approximately similar in size, while the P3 cord is more obvious in *C. benedicta* and the P4 cord very small. The area between P3 and P6 is also much less concave than in *C. benedicta*.
Cytharomorula paucimaculata also has more numerous and lower axial ribs, 8-10 *vs* 6 or 7 in *C. benedicta*.

Figures 4-13

4. Spiral cord morphology of *Cytharomorula amboinensis* (Houart, 1996); **5.** Spiral cord morphology of *Cytharomorula lefevreiana* (Tapparone Canefri, 1880); **6.** Spiral cord morphology of *Cytharomorula benedicta* (Melvill & Standen, 1895).
7. Protoconch and first teleoconch whorl of *Cytharomorula benedicta* (Melvill & Standen, 1895) (scale bar 500 µm).
8-9. *Cytharomorula amboinensis* (Houart, 1996). Indonesia, Ambon Id, Hitu, Suli, in sand, near coral, holotype RMNH 57155, 9.4 mm (scanned from a black and white photograph).
10-13. *Cytharomorula paucimaculata* (Sowerby, 1903)
10. Hachijojima, Japan, holotype NHMUK 1903.12.7.8, 11.5 mm (scanned from a black and white photograph);
11-13. Japan, Okinawa, Seragaki, 19-25 m, under rocks. **11-12.** 12.4 mm; **13.** 11.5 mm.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Thanks also to Shawn Miller, Okinawa, Japan, for the two specimens of *Cytharomorula paucimaculata* he kindly sent to me.
The photo of the holotype of *C. paucimaculata* was taken during my visit to the National Museum of Natural History, in the late eighties.
I was able to illustrate the type material of *Murex benedictus* thanks to Henry Mcghie and Rebecca Machin, The Manchester Museum, UK, who provided the digital photos of the figured syntype.
The search for the type material of *Tritonidae lefevreiana* lasted several months and ended successfully thanks to Philippe Bouchet, Muséum national d'Histoire naturelle, Paris, France; for useful information, to Marco Oliverio, Universita di Roma "La Sapienza" Dipartimento di Biologia Animale e dell'Uomo, Roma, Italy; to Giuliano Doria from the Museo Civico di Storia Naturale "Giacomo Doria", Genova, Italy, and to Simone Cianfanelli, Museo di Storia Naturale, Università di Firenze, Italy for also giving me useful information about possible contacts; and finally, thanks to the kindness of Cecilia Volpi and Antonio Callea, Museo di Storia Naturale, Sezione di Zoologia "La Specola", Università di Firenze, Italy, for searching and finding these types and to Saulo Bambi for the very fine digital photographs.
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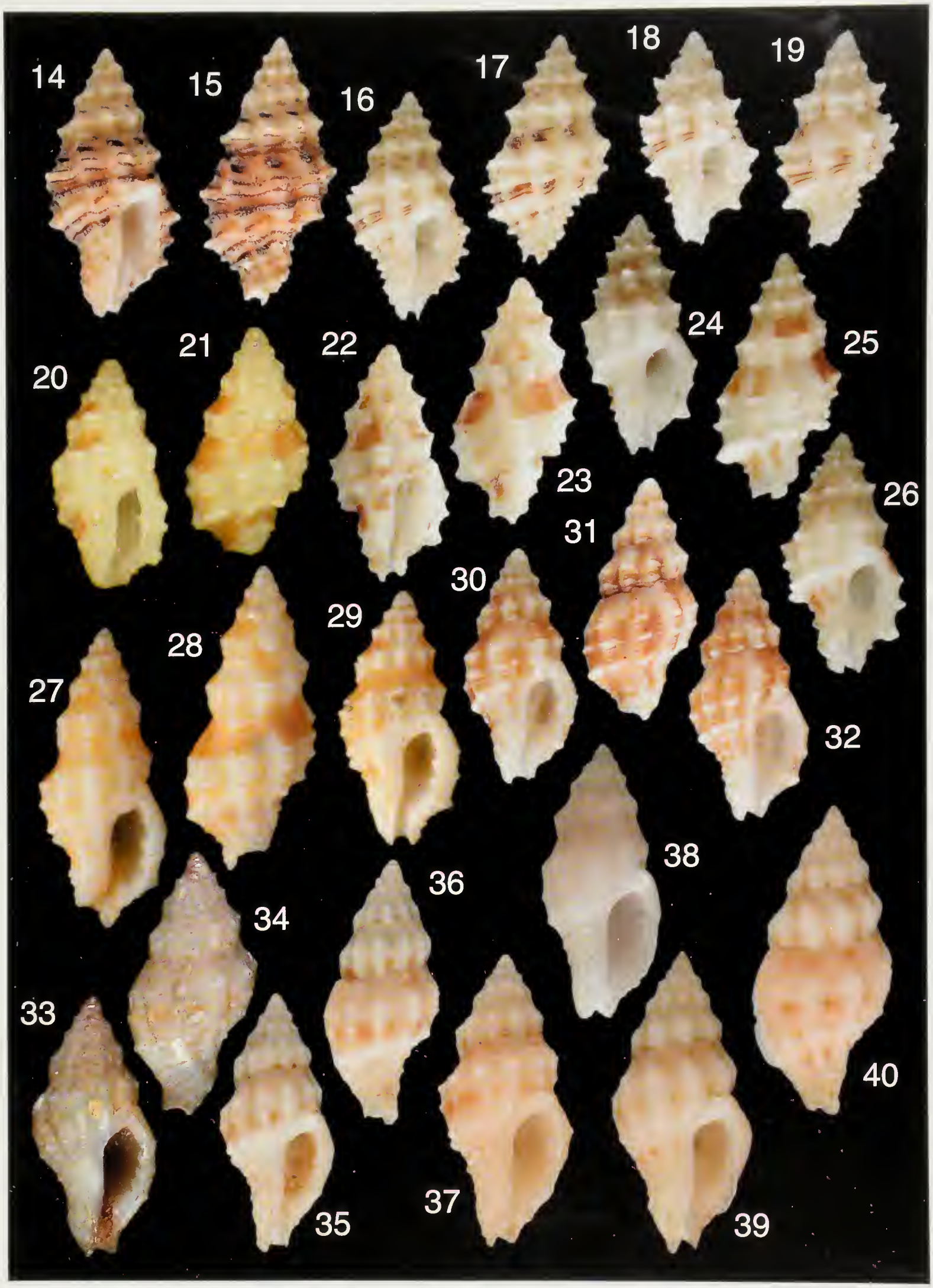
Figures 14-40

14-19. *Cytharomorula ambonensis* (Houart, 1996)
14-15. Guam, Apra Harbor, among silty rocks; glass breakwater, 5-9 m, RH, 10.1 mm; **16-17.** Guam, near mouth of Apra Harbor, among rocks; glass breakwater, 5-8 m, RH, 8.8 mm; **18-19.** Lifou, New Caledonia, MNHN IM-2010-21107, 6.3 mm.
20-26. *Cytharomorula benedicta* (Melvill & Standen, 1895)
20-21. Lifou, New Caledonia, Lectotype Manchester Mus. EE.3708, 6.7 mm; **22-23.** Koumac, New Caledonia, RH, 7.4 mm; **24-25.** Koumac, 15-20 m, RH, 6.7 mm; **26.** New Caledonia, Loyalty Islands, Lifou, 20°48' S, 167°07' E, 8-18 m, MNHN IM-2010-21118, 7.4 mm.
27-32. *Cytharomorula lefevreiana* (Tapparone Canefri, 1880)
27-28. Mauritius, Lectotype MZUF 24524/1, 11 mm; **29.** Paralectotype MZUF 24524/2, 8.3 mm; **30-32.** Reunion, 21°00' S, 55°15' E, 58-70 m, MNHN. **30-31.** 6.6 mm; **32.** 7 mm.
33-40. *Cytharomorula dollfusi* (Lamy, 1938)
33-34. Jubal Island, holotype MNHN 0103, 8 mm; **35-36.** Philippines, Cebu, Mactan Id, Punta Engano, RH, 8.5 mm; **37.** Phillippines, Sulu Sea, RH, 10.4 mm; **38.** Maldives, Maagau Kandu, Ari Atoll, 20-25 m, RH, 9.8 mm; **39-40.** New Caledonia, Loyalty Islands, Santal Bay, 20°48' S, 167°08' E, 35-45 m, MNHN IM-2010-21111, 10.9 mm.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A new species of *Rolaniconus* (Gastropoda: Conidae) from the Philippines

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Keywords. Gastropoda, Conidae, *Conus*, *Rolaniconus dedonderi* new species, Philippines.

Abstract. *Rolaniconus dedonderi* is described as a new species and compared with *Conus axelrodi* (Walls, 1978) and *Rolaniconus lecourtorum* Lorenz, 2011. The new species has hitherto been confused with *R. axelrodi* and has consistently been identified as an albino form of this species.

INTRODUCTION

While sorting hundreds of smaller Conidae originating from the Palawan area, southern Philippines, the senior author encountered a number of specimens that were at first identified as *Rolaniconus axelrodi* (Walls, 1978). Yet, a more thorough survey of the original description and figures of the types (Walls, 1978 and 1979; Kohn & Anderson) revealed a number of constant characteristics not encountered in *R. axelrodi* and led to the conclusion that the specimens at hand belonged to a yet undescribed species. They are described here as *Rolaniconus dedonderi* sp. nov.
The terminology used here follows Röckel & *al.* (1995)

Abbreviations

MNHN: Muséum national d'Histoire naturelle, Paris, France.
DG: Collection Fernand & Rika De Donder - Goethaels, Peutie, Belgium.
DM: Collection David Monsecour, Aarschot, Belgium.

SYSTEMATICS

Family **CONIDAE** Fleming, 1822
Genus ***Rolaniconus*** Tucker & Tenorio, 2009
Type species: *Conus varius* Linnaeus, 1758 by original designation.

Rolaniconus dedonderi sp. nov.
Figs 1-5

Type material. Holotype MNHN 25879, 20.8 x 11.5 mm. Paratypes 1-3 (from type locality) DG, 20.1 – 22.3 mm, Paratypes 4-5 (Balabac Island, Palawan, southern Philippines) DM, 17.4 and 22.7 mm.

Type locality. Coron, Palawan Island, southern Philippines, 20-35m.

Distribution and habitat. All available material originates from the Palawan area, southern Philippines. The distributional range is probably limited to these regions, but could be much larger because of the confusion with *R. axelrodi* (see below). No real data about the habitat are available at present, except for a bathymetrical range of 20-35 metres.

Description. Shell of rather small size for the genus (about 17-23 mm in length), ventricosely conical, outline slightly sigmoid; shoulder subangulate, undulate; spire slightly concave. Protoconch of about 2 bulbous whorls adorned with microscopic pits, glassy but not translucent (eroded in holotype and most of the paratypes). Teleoconch consisting of 8 whorls with 4 evenly spaced spiral cords on all whorls; shoulders adorned with low, rounded knobs. Spiral sculpture of last whorl consisting of 8-10 cords on abapical 1/3, lower and less distinct adapically, obsolete or microscopic from final visible cord towards shoulder. Visible cords continuous, sometimes with rounded, elongated elevations (only visible under magnification). Lip simple, aperture of nearly uniform width. Outer apertural lip completely smooth. Columella like last whorl: abapical spiral cords continue and run deep into the aperture, remaining part of columella virtually smooth, occasionally with microscopic cords.
Colour of protoconch glassy off-white, sometimes with pale yellowish tinge on it. Rest of shell uniformly white.

Comparison. *Rolaniconus dedonderi* has hitherto always been considered a white or even albino form of *R. axelrodi*. White specimens of the latter are known (Raybaudi Massillia: pl. 567, fig. 3), but the new species can easily be distinguished by the weaker spiral sculpture on the last whorl: obsolete or

microscopic between the shoulder and the basal cord, whereas the last whorl of *R. axelrodi* is completely adorned with strong spiral cords of beadlike nodules; the higher onset of the lip at the shoulder, whereas it is usually somewhat lower in *R. axelrodi*; the "straighter" general outline of the body whorl; the less bulbous teleoconch whorls and the pure white colour. Even though both species occur in the southern Philippine region around Palawan, *R. dedonderi* lives in deeper waters (20-35 m as opposed to 8-15 m for *R. axelrodi*), but more accurate data are needed to confirm this.

In fact, *R. dedonderi* cannot be confused with any other known species, but as Lorenz (2011) compared *R. lecourtorum* Lorenz, 2011 with *A. axelrodi* in his original description, we hereby also compare *R. dedonderi* and *R. lecourtorum*: *R. dedonderi* has a weaker spiral sculpture, which does not cover the entire last whorl, the shoulders bear low, rounded knobs and it is completely white, whereas *R. lecourtorum* has a stronger, nodulose spiral sculpture which is present all over the last whorl, a stepped spire with strong coronations and a reddish colour pattern. Moreover, *R. dedonderi* is only known from the Philippines, whereas *R. lecourtorum* is endemic to the Cargados Carajos Shoals (also known as St. Brandon) in the western Indian Ocean.

Etymology. The new species is named in honour of Fernand De Donder, the first author's husband, for his efforts to draw attention to the smaller, often neglected molluscan species from the Philippines.

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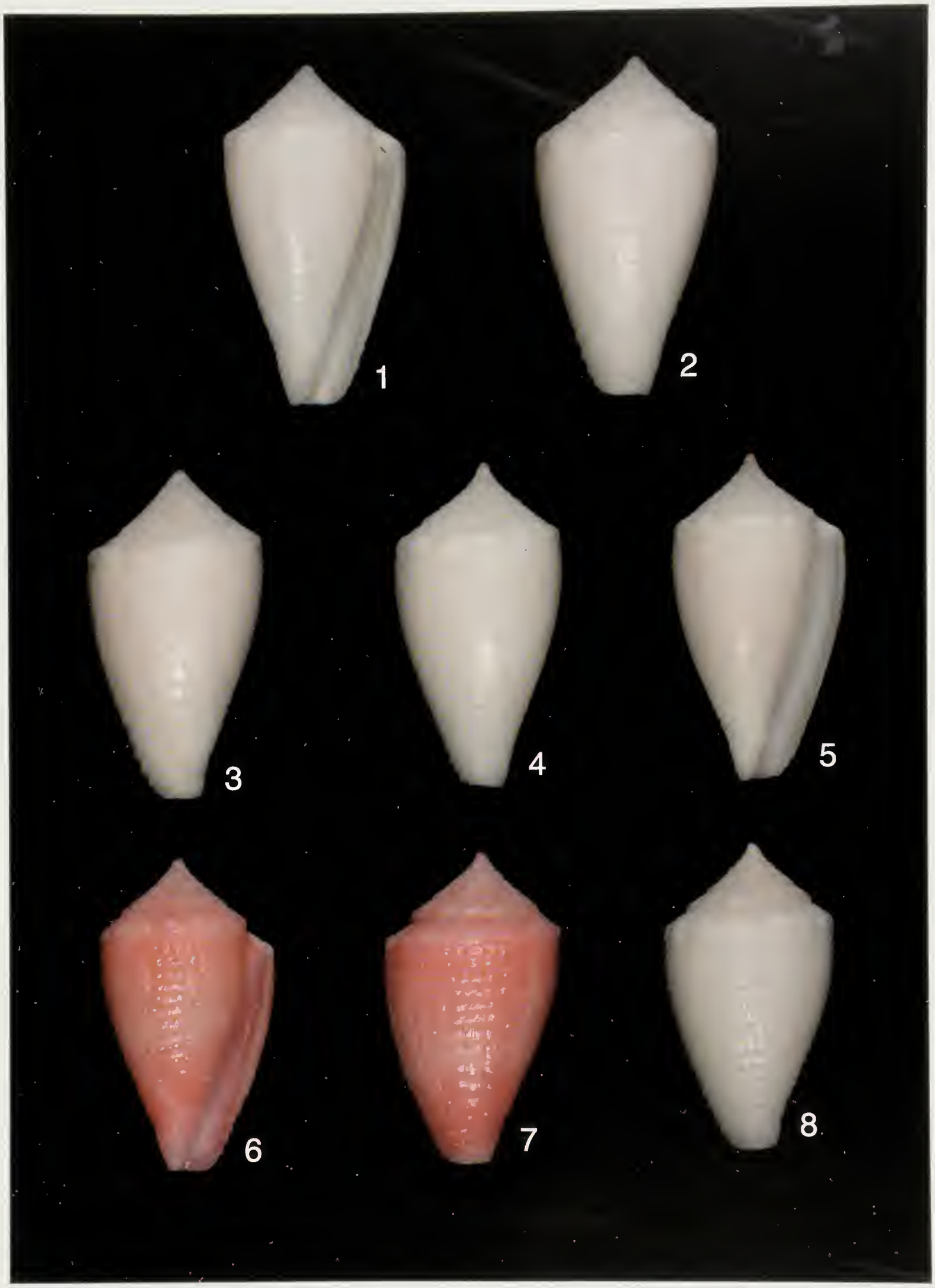
Figures 1-8

1-5. ***Rolaniconus dedonderi sp. nov.***
1-2. Holotype MNHN 25879, Coron, Palawan Island, southern Philippines. 20-30m deep, 20.8 x 11.5 mm;
3. Paratype 1. Type locality, 20.0 mm, coll. DG; **4-5.** Paratype 2. Type locality, 19.0mm, coll. DG.
6-8. ***Rolaniconus axelrodi*** (Walls, 1978)
Coron, Palawan Island, southern Philippines. 20-30m deep (Figs. 6-7. 18.8. mm; Fig. 8. 16.9 mm), both coll. DM.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Eclectofusus, a new genus for *Pararetifusus dedonderi* Fraussen & Hadorn, 2006 (Gastropoda: Buccinidae)

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Keywords. Gastropoda, Buccinidae, *Pararetifusus*, Indo-Pacific, new genus.

Abstract. *Eclectofusus* gen. nov. (Buccinidae) is described to accomodate *Pararetifusus dedonderi* Fraussen & Hadorn, 2001. The new genus is compared with *Pararetifusus* Kosuge, 1967 and *Americoninella* Klappenbach & Ureta, 1972.

INTRODUCTION

The description of *Pararetifusus dedonderi* Fraussen & Hadorn, 2001 was not accompagnied by the description of a new genus to prevent the establishment of a monotypic genus. That principle worked well until a revision of *Pararetifusus* was published by Kosyan (2006). In the meantime we searched through material of many expeditions and museums to find more species which may belong to this group but without result. In the present paper we describe the new genus *Eclectofusus* to accommodate "*Pararetifusus*" *dedonderi* properly. Previously only known from the Philippines, the range of *E. dedonderi* is hereby extended to Vanuatu and the Solomon Islands. Bathymetric distributions, previously only based on information obtained from fishermen and shell dealers, are here based on detailed information from the scientific expeditions.

Material and methods

The material reported in the present study originates from various expeditions conducted since 1980 by MNHN and IRD (formerly ORSTOM):
(a) SALOMON 1 (Solomon Islands).
(b) MUSORSTOM 3 (northern Philippines).
(c) PANGLAO 2005 (Bohol and Sulu Seas; Philippines).
(d) MUSORSTOM 8 (Vanuatu).

Material from these expeditions is, unless otherwise stated, deposited in MNHN.
We provided the bathymetric range which is reported as the broadest possible depth range and the so called confirmed depth range which is the narrowest possible range for *E. dedonderi* (e.g. if a specimen was reported from a depth of 100-200 m and a second specimen of the same species from 500-600 m, the bathymetic range would be 100-600 m, while the confirmed bathymetric range would be 200-500 m). The bathymetric range takes into account records of dead and live taken specimens while the confirmed depth range is only provided for live taken specimens. The depth ranges of every station were assigned to '200 m' categories (e.g. 0-200 m, 200-400m, ...). If a depth range was not unequivocally assignable, the category comprising the corresponding mid point of the depth range was used (e.g. a depth range of 320-440 m with the mid point at 380 m would become assigned to the '200-400 m' category). See Fig. 1.

Abbreviations

CP: Chalut à perche (beam trawl).
DW: Drague Warén (Warén dredge).
IRD: Institut de Recherche pour le Développement (Formerly ORSTOM).
KBIN: Koninklijk Belgisch Instituut voor Natuurwetenschappen, Brussels, Belgium.
KF: collection Koen Fraussen, Aarschot, Belgium.
MNHN: Muséum national d'Histoire naturelle, Paris, France.
ORSTOM: Office de la Recherche Scientifique et Technique d'Outre Mer (now IRD).
dd: empty shell, dead collected.
lv: collected alive.
jv: juvenile or subadult specimen/shell.

SYSTEMATICS

Family **BUCCINIDAE** Rafinesque, 1815

Eclectofusus gen. nov.

Type species. *Pararetifusus dedonderi* Fraussen & Hadorn, 2001 (type locality: Balicasag Island, near Panglao, Bohol, central Philippine Islands, in 120-250 m).

Range. The single species, *Eclectofusus dedonderi* comb. nov., is known from the Philippines, the Solomon Islands and Vanuatu.

Diagnosis. Shell small, up to 19.4 mm in length, usually between 12 and 17 mm, thin, rather fragile, semi-transparant. Shape broadly fusiform, spire high. Siphonal canal short, narrow, open.
Protoconch paucispiral, glossy, smooth.
Sculpture reticulate, consisting of fine, sharp spiral cords crossing narrow but prominant axial ribs, forming a sharp knob at intersections.
Aperture oval, outer lip usually thin (subadult), occasionally thick, with 2-7 big denticles within (adult specimens), columella smooth without columellar knob, glossy, slightly curved. Operculum slightly smaller than aperture, corneous, pale brown; shape rather triangular, pointed, nucleus terminal.
Periostracum thick, rather corneous, dark brown; forming flamboyent sharp axial lamellae with spiny hairs on intersections of spiral cords with axial ribs, these spiny hairs occasionally bicuspid on shoulder.
Radula with tricuspid outer teeth.

Comparison. *Eclectofusus* gen. nov. is characterized by having a reticulate sculpture in combination with big and rounded internal denticles inside the outer lip, a hirsute periostracum and a small adult size.
Pararetifusus Kosuge, 1967 (type species: *Phymorhynchus tenuis* Okutani, 1966: 26, Japan) differs in having two or three pronounced spiral cords and by the absence of axial sculpture.
Americominella Klappenbach & Ureta, 1972 [type species: *Americominella duartei* Klappenbach & Ureta, 1972: 2, Argentina (= *A. longisetosus* De Castellanos & Fernandez, 1972, Argentina)] (= *Echinosipho* Kaiser, 1977 with type species: *Echinosipho aculeatum* Kaiser, 1977: 27, Argentina, a synonym of *A. duartei*) is similar in sculpture and periostracum. The radula is quite identical with the exception of the central tooth which has a concave base in *A. duartei* (instead of being rectangular) and the broader base of the lateral teeth (Bouchet & Warén, 1986: pl. 2, fig. 10). Furthermore, *A. duartei* differs at once in having a broad, depressed protoconch consisting of 1.5 whorls, a larger size (up to 90 mm) and a different distribution (subantarctic, off Argentina).

Etymology. *Eclectofusus* gen. nov. is named after *eclectisism*, one of the artistic trends during the romanticism (1820-1870) which is based on compilating distinct styles, referring to the characteristics of this shell which one may regard as a compilation from a varied number of families: the shape of *Fusinus* (Fasciolariidae), the usual colour and also the sculpture of *Trophon* (Muricidae), the reticulate sculpture of *Raphitoma* (Raphitomidae), the periostracum of *Cymatium* (Ranellidae) but the radula of Buccinidae.

Eclectofusus dedonderi (Fraussen & Hadorn, 2001) comb. nov.
Fig. 2

Pararetifusus dedonderi Fraussen & Hadorn, 2001: 93.

Type locality. Balicasag Island, near Panglao, Bohol, central Philippines, in 120-250 m.

Type material. Holotype in KBIN 490.I.G.nr.29.260 and 18 paratypes.

Other material examined. A total of 15 lots (23 specimens). **Philippines:** MUSORSTOM 3: Stn CP139, 11°53'N, 122°14'E, 240-267 m, 1 lv, PANGLAO 2005 (Bohol Sea), stn CP2343 (Pamilacan Island), 9°27'N, 123°49'E, 273-356 m, 1 dd, stn DW2364 (Dipolog), 9°01'N, 123°25'E, 427 m, 2 dd (1 jv), stn CP2380 (Dipolog), 8°41'N, 123°18'E, 150-163 m, 4 lv (1 jv), stn CP2383 (Aliguay Island), 8°45'N, 123°18'E, 338-351 m, 1 lv, 1 dd (1 jv), stn CP2384 (Aliguay Island), 8°46'N, 123°16'E, 624-647 m, 1 lv, 1 dd, stn CP2392 (Balicasag Island), 9°29'N, 123°41'E, 242-400 m, 1 lv, 1 dd, stn CP2393 (Balicasag Island), 9°30'N, 123°42'E, 356-396 m, 1 lv, stn CP2404 (Maribojoc Bay), 9°39'N, 123°43'E, 481-505 m, 1 lv, stn CP2409 (Maribojoc Bay), 9°45'N, 123°45'E, 220-257 m, 1 lv.
Solomon Islands: SALOMON 1, stn CP1804, 9°32'S, 160°37'E, 309-328 m, 1 lv (jv), stn CP1831, 10°12'S, 161°19'E, 135-325 m, 2 lv (1 jv), stn CP1837, 10°13'S, 161°29'E, 381-383 m, 1 dd, stn CP1860, 9°22'S, 160°31'E, 620 m, wood, 1 lv.
Vanuatu: MUSORSTOM 8, stn DW978, 19°23'S, 169°27'E, 408-413 m, 1 dd.

Range and habitat. Western Pacific, before only reported from the central Philippines, the range is extended towards the south-east to the Solomon Islands and Vanuatu. The confirmed bathymetric range is 163 to 624 m for live collected specimens, records of empty shells range from 135 to 647 m.
Live specimens were sampled on sandy-muddy bottoms with volcanic mud and/or coral rubble.
The species is syntopic with *Manaria* species at the Philippines (PANGLAO 2005, stns CP2343, CP2384, CP2393) and at the Solomon Islands (SALOMON 1, stns CP1804, CP1837, CP1860)) and with *Preangeria dentata* at the Philippines (PANGLAO 2005, stns CP2380, CP2383, CP2392).

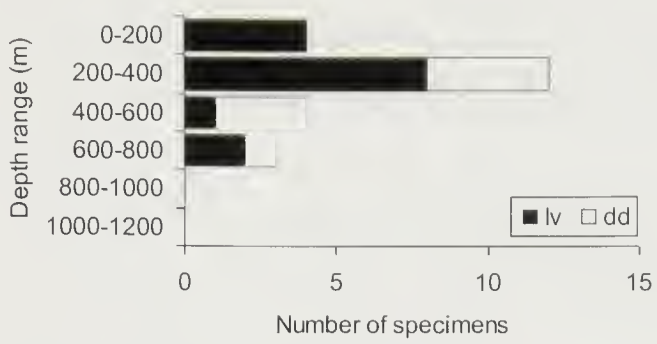

Figure 1 Bathymetric distribution of MNHN material of *Eclectofusus dedonderi*.

Remarks. *Eclectofusus dedonderi* comb. nov. is characterized by a strong, reticulate sculpture in combination with a small, smooth, paucispiral protoconch and a reticulate and hirsute periostracum.

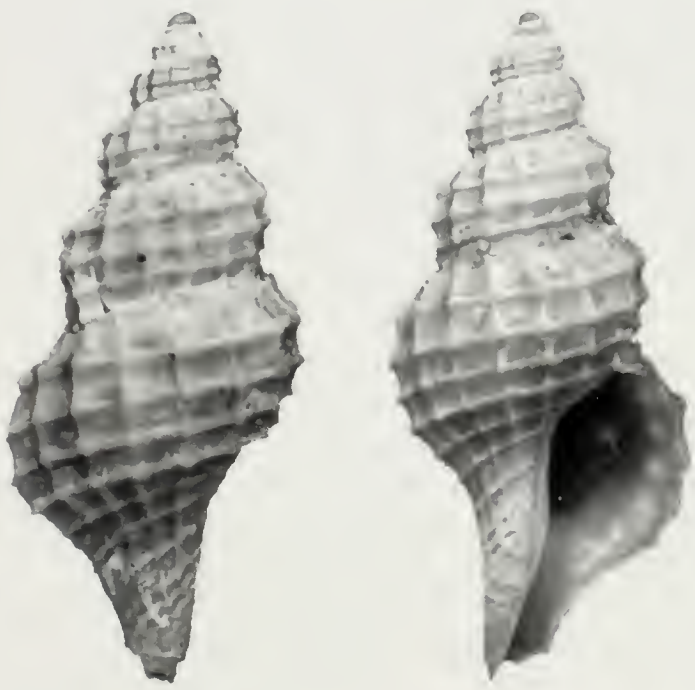

Figure 2. *Eclectofusus dedonderi* comb. nov., 11.6 mm, paratype 12, Philippines, Balicasag Island, in tangle nets, 120-150 m deep, KF-3206.

Genus ***Pararetifusus*** Kosuge, 1967

Pararetifusus Kosuge, 1967: 59-64.
Type species: *Phymorhynchus tenuis* Okutani, 1966: 26, pl. II-21 (type locality: Japan, Sagami Bay, 34°57'N, 139°21'E, 1470-1500 m).

Remarks. *Pararetifusus* species are mainly known from the Boreal and Arctic region. Three species are known. For a discussion of included species we refer to Kosyan, 2006 (5-15).
Eclectofusus sp. nov. differs in having sharp axial ribs, forming a reticulate sculpture together with the spiral sculpture.

Included species

Pararetifusus kantori Kosyan, 2006 (type locality: Russia, Bering Sea, 52°40.8'N, 159°13'E, 800-1000 m).
Pararetifusus kosugei Kosyan, 2006 (type locality: Russia, Bering Island, 55°08'N, 165°58.3'E, 130-250 m).
Pararetifusus tenuis (Okutani, 1966) (type locality: Japan, Sagami Bay, 34°57'N, 139°21'E., 1470-1500 m).

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We are grateful to Philippe Bouchet, Virginie Héros and Philippe Maestrati (Muséum national d'Histoire naturelle, Paris, France) for procuring additional material for study, to Roland Houart (Belgium) for reading and correcting the manuscript and to David Monsecour (Belgium) for correcting the English text.

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Description of a new species of *Favartia* (*Pygmaepterys*) (Gastropoda: Muricidae: Muricopsinae) from Hawaii

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Keywords. Gastropoda, Muricidae, Muricopsinae, Hawaii, *Favartia* (*Pygmaepterys*) new species.

Abstract. *Favartia* (*Pygmaepterys*) *kernoi* n. sp. is described from Hawaii. It was previously confused with *F.* (*P.*) *funafutiensis* (Hedley, 1899) but differs in having a lecithotrophic larval development *vs* planktotrophic in *F.* (*P.*) *funafutiensis*. The new species is compared with other Indo-West Pacific species of *Pygmaepterys*, namely *F.* (*P.*) *avatea* Houart & Tröndlé, 2008 from French Polynesia and New Caledonia, *F.* (*P.*) *bellini* (D'Attilio & Myers, 1985) from the Philippines and Okinawa, *F.* (*P.*) *lifouensis* Houart & Héros, 2012 from New Caledonia and *F.* (*P.*) *philcloveri* (Houart, 1984) from the Philippines. It is also briefly compared with the other eleven species from the Indo-West Pacific.

Résumé. *Favartia* (*Pygmaepterys*) *kernoi* n. sp. est décrite de Hawaii. L'espèce a été confondue avec *F.* (*P.*) *funafutiensis* (Hedley, 1899) mais elle en diffère par son développement larvaire lécithotrophe alors qu'il est planctotrophe chez *F.* (*P.*) *funafutiensis*. La nouvelle espèce est comparée avec d'autres espèces de *Pygmaepterys* de l'Indo-Pacifique Ouest, notamment *F.* (*P.*) *avatea* Houart & Tröndlé, 2008 de Polynésie française et de Nouvelle-Calédonie, *F.* (*P.*) *bellini* (D'Attilio & Myers, 1985) des Philippines et d'Okinawa, *F.* (*P.*) *lifouensis* Houart & Héros, 2012 de Nouvelle-Calédonie et *F.* (*P.*) *philcloveri* (Houart, 1984) des Philippines. Elle est également brièvement comparée avec les onze autres espèces de l'Indo-Pacifique Ouest.

INTRODUCTION

Pygmaepterys was originally described as a subgenus of *Pterynotus s.s.* for two species: *F.* (*P.*) *alfredensis* (Bartsch, 1915), the type species, and *F.* (*P.*) *maraisi* (Vokes, 1978), both from South Africa. It was then thought that *Pygmaepterys* was closely related to *Pterynotus*. However, further research based on shell morphology and radula characteristics proved *Pygmaepterys* to be a muricopsine (D'Attilio & Myers, 1985b). The radula characteristics were studied in several species but not in the type species; nevertheless, all these species are strongly related to *F. alfredensis*.

There are currently 24 Recent *Pygmaepterys* species, 16 of which are from the Indo-West Pacific region. The new species is the only one that occurs in Hawaii.

Terminology used to describe the spiral cords and the apertural denticles (after Merle, 2001 and 2005) (Figs 1-2) (Terminology in parentheses: erratic feature).

SPIRAL CORDS

P: primary cord; **s:** secondary cord; **IP:** infrasutural primary cord (primary cord on subsutural ramp); **P1:** shoulder cord; **P2-P6:** primary cords of the convex part of the teleoconch whorl; **s1-s6:** secondary cords of the convex part of the teleoconch whorl (example: s1 = secondary cord between P1 and P2; s2 = secondary cord between P2 and P3, etc.); **ADP:** adapertural primary cord on the siphonal canal; **MP:** median primary cord on the siphonal canal; **ABP:** abapertural primary cord on the siphonal canal.

APERTURE

ID: infrasutural denticle; **D1 to D5:** abapical denticles.

Repositories

AMS: Australian Museum, Sydney, Australia.
ANSP: Academy of Natural Sciences of Philadelphia, U.S.A.
IRSNB: Institut royal des Sciences naturelles de Belgique, Bruxelles, Belgium.
MNHN: Muséum national d'Histoire naturelle, Paris, France.
MS: collection Mike Severns.
RH: collection Roland Houart.

SDNHM: San Diego Natural History Museum, California, U.S.A.
USNM: National Museum of Natural History, Washington, D.C., U.S.A.

Other abbreviations

lv: live collected specimen.
dd: empty shell.

SYSTEMATICS

Family **MURICIDAE** Rafinesque, 1815
Subfamily **MURICOPSINAE** Radwin & D'Attilio, 1971
Genus ***Favartia*** Jousseaume, 1880
Subgenus ***Pygmaepterys*** Vokes, 1978
Type species by original designation: *Murex alfredensis* Bartsch, 1915, South Africa.

Remarks. In harmony with the most recent papers (Houart & Tröndlé, 2008; Houart & Rosado, 2008; Houart & Héros, 2012) we will retain *Pygmaepterys* as a subgenus of *Favartia*, while awaiting further genetic results.

Favartia* (*Pygmaepterys*) *kernoi n.sp.
Figs 1-4, 6, 9-14

Favartia funafutiensis (Hedley) – Kaicher, 1979: card 2029 (NOT *Murex funafutiensis* Hedley, 1899).
?*Pygmaepterys funafutiensis* (Hedley) – Vokes and D'Attilio, 1980: Pl. 2, fig. 5a-b (only) (NOT *Murex funafutiensis* Hedley, 1899).
Pygmaepterys funafutiensis (Hedley) – D'Attilio & Myers, 1985a: Figs 7-8, 11, 14; D'Attilio & Myers, 1985b: Figs 4, 5 (NOT *Murex funafutiensis* Hedley, 1899).

Type material. Hawaii, dredged off Kihei, Maui, 20°39.180" N, 156°28.598" W to 20°38.650" N, 156°30.494" W, 170 m, December 28, 2012, holotype MNHN 25838, lv, 10.7 mm.
Paratypes : 1 IRSNB IG 32 388/MT 2798, lv, 9.5 mm; 1 RH, dd, 10.5 mm; 1 MS, dd, 11.8 mm; 1 ANSP 451390, dd, 9.9 mm; 1 MS, dd, 8.7, 128 m, November 21, 2012; 1 USNM 1205569., lv, 9.2 mm, 128 m, November 21, 2012; 1 MS, lv, 13.3 mm; 137 m, November 30, 2012; 1 MS, dd, 12.9 mm, 101 m, December 5, 2012; Hawaii, Oahu, Pokai Bay, August 14, 1976, Dredged in sand & coralline algae, 183 m, 1 R. Salisbury, dd, 9.0 mm.

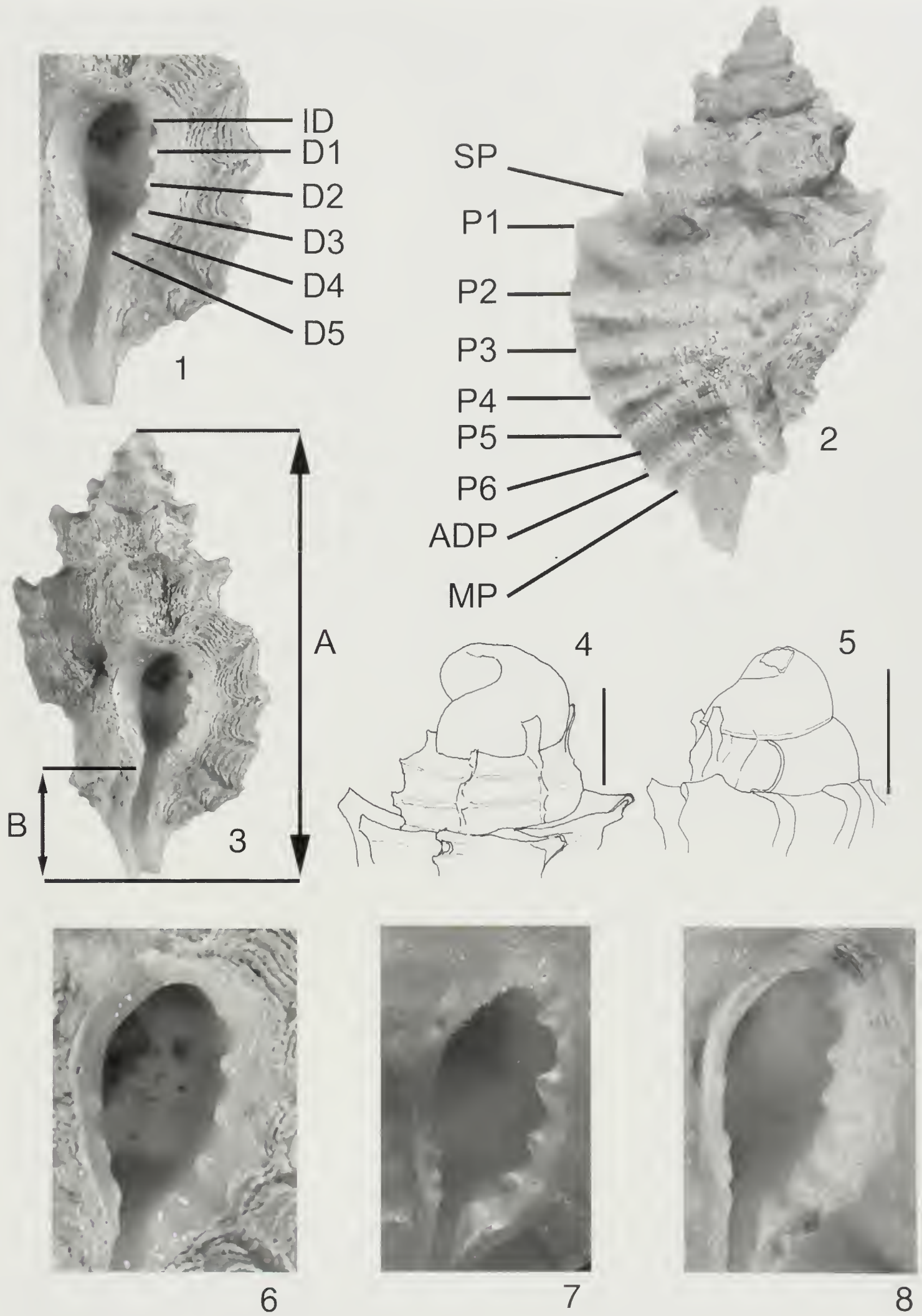
Type locality. Hawaii, dredged off Kihei, Maui, 20°39.180" N, 156°28.598" W to 20°38.650" N, 156°30.494" W, 170 m, December 28, 2012.

Distribution. Hawaii, Maui and Oahu, live in 101-170 m.

Description. Shell large for the subgenus, up to 13.3 mm in length at maturity (paratype MS). Length/width ratio 1.7-1.8. Biconical, broadly ovate, weakly spinose, lightly built, squamous. Subsutural ramp narrow, weakly sloping, slightly concave. Light or dark tan or brown. Aperture glossy, bluish-white.
Spire high with 1.5 protoconch whorls and teleoconch up to 5 broadly convex, strongly shouldered, weakly spinose whorls. Suture slightly impressed, partially obscured by axial varices of following whorl. Protoconch moderately large, weakly elongate, whorls rounded, smooth, width 550 µm, height 500 µm (paratype IRSNB).
Terminal lip delicate, thin, erect, strongly curved.
Axial sculpture of teleoconch whorls consisting of moderately high, narrow, weakly spinose, lightly webbed varices. Other axial sculpture of very fine, numerous, close-set growth lamellae. First to penultimate whorl with 6 varices; last whorl with 5 or 6. Spiral sculpture of high, strong, rounded, broad, squamous, primary cords and several lirae. First to third whorl with visible P1 and P2, fourth with SP, P1, P2, occasionally P3 covered by next whorl. Last whorl with SP, P1-P6, with small lirae between cords. P2-P4 broadest and highest, approximately of same strength; P1 and P5 slightly lower and narrower; P6 very small, followed by ADP and MP on siphonal canal. Intersection of varices and spiral cords giving rise to small, short spinelets, connected with varical flange, more obvious on last (apertural) varix. P1 spine longest.
Aperture small, ovate; columellar lip narrow, with 3 weak knobs abapically, otherwise smooth; rim very weakly erect abapically, otherwise adherent, with weak, low parietal tooth at adapical extremity; anal notch moderately deep, broad; outer lip erect, with 6 strong denticles within: ID, D1-D5. Siphonal canal moderately long, 28-30% of total shell length, broad, weakly dorsally recurved, narrowly open.
Operculum and radula unknown.

Figures 1-8 (scale bars: 500 µm)

1-4. *Favartia* (*Pygmaepterys*) *kernoi* n. sp.
1. Apertural denticles morphology (holotype MNHN 25838.); **2.** Spiral cords morphology (paratype RH); **3.** Measurements of the shell and siphonal canal (holotype MNHN 25838.); **4.** Protoconch (paratype IRSNB IG 32388/MT 2798).
5. Protoconch of *Favartia* (*Pygmaepterys*) *funafutiensis* (Hedley, 1899), holotype AMS C.006004.
6-8. Morphology of the aperture.
6. *Favartia* (*Pygmaepterys*) *kernoi* n. sp. (holotype MNHN 25838); **7.** *Favartia* (*Pygmaepterys*) *avatea* Houart & Tröndlé, 2008 (holotype MNHN 20172); **8.** *Favartia* (*Pygmaepterys*) *lifonensis* (holotype MNHN 24174).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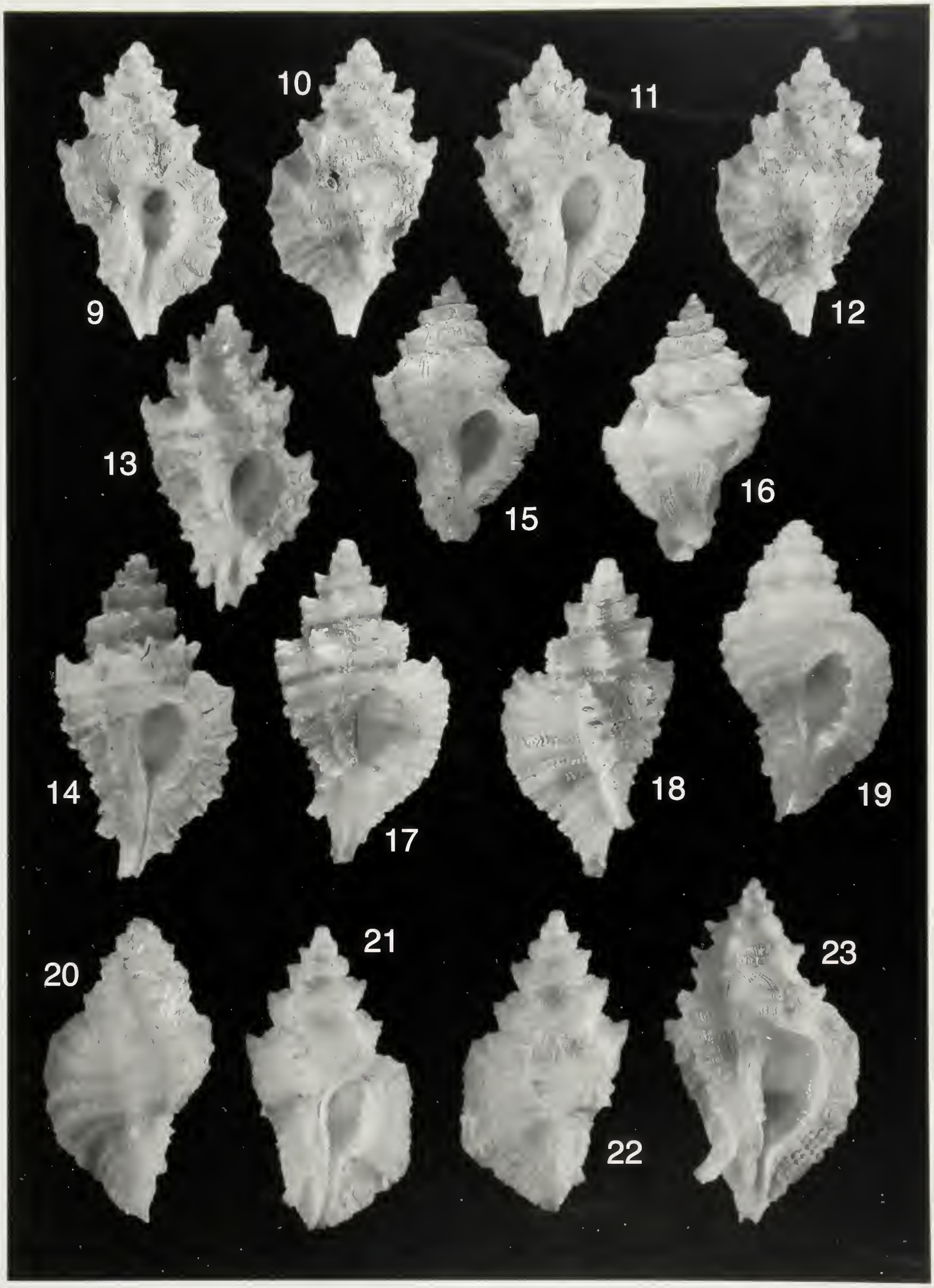
Etymology. This species is named for Mr. Kern Osterstock, nicknamed "Kerno", in recognition of his generous support and help in developing a system allowing the junior author to dredge to the depths that this species has been shown to inhabit.

Remarks. From the sixteen Indo-West Pacific species, three have a last teleoconch whorl with only 3 axial varices and need not be compared further here: *F.* (*P.*) *cracentis* (Houart, 1996) from Indonesia, *F.* (*P.*) *dondani* (Kosuge, 1984) from the Philippines and *F.* (*P.*) *menoui* (Houart, 1990) from New Caledonia.
Six species are confined to the Indian Ocean, namely *F.* (*P.*) *alfredensis* (Bartsch, 1915) from Port Alfred, South Africa, *F.* (*P.*) *maraisi* (Vokes, 1978) from Northern Transkei, South Africa, *F.* (*P.*) *isabelae* Houart & Rosado, 2008 from Madagascar and Mozambique, *F.* (*P.*) *adenensis* (Houart & Wranik, 1989), *F.* (*P.*) *yemenensis* (Houart & Wranik, 1989) and *F.* (*P.*) *paulboschi* Smythe & Houart, 1984 all from the Gulf of Aden, Yemen and Oman. All these species are very different from *F.* (*P.*) *kernoi* and need not be compared here either.
The remaining seven species are *F.* (*P.*) *avatea* Houart & Tröndlé, 2008 from the Austral Archipelago and New Caledonia, *F.* (*P.*) *bellini* (D'Attilio & Myers, 1985) from the Philippines and Okinawa, *F.* (*P.*) *circinata* Houart & Héros, 2012, from Taiwan, *F.* (*P.*) *funafutiensis* (Hedley, 1899) from the Funafuti Atoll, *F.* (*P.*) *kurodai* Nakamigawa & Habe, 1964 from Japan, *F.* (*P.*) *lifouensis* Houart & Héros, 2012 from New Caledonia and *F.* (*P.*) *philcloveri* (Houart, 1984) from the Philippines.
The shell characters of *Favartia* (*P.*) *circinata*, *F.* (*P.*) *kurodai* and *F.* (*P.*) *philcloveri* differ markedly from those of *F.* (*P.*) *kernoi* n. sp.
Favartia (*P.*) *kernoi* n. sp. was erroneously identified as *F.* (*P.*) *funafutiensis*, starting from Kaicher (1979) who illustrated a shell from Pokai Bay, Oahu, Hawaii. The same specimen was illustrated by Vokes & D'Attilio (1980) and was then also identified as *F.* (*P.*) *funafutiensis*, which following the authors only differs in having several small denticles on the inner lip.
Another specimen of *F.* (*P.*) *kernoi* n. sp., this one from the Philippines, from the Don Pisor collection was illustrated by D'Attilio & Myers (1985a and 1985b), also as *F.* (*P.*) *funafutiensis*. The locality of this last specimen seems very doubtful as no other specimen has been signalized from the Philippines since then, in spite of the extensive dredging that has been performed there since the end of the seventies. The label could have been mixed with that of another species.
The holotype of *Favartia funafutiensis* (Figs 15-16) is a small specimen with 5 teleoconch whorls. It is probably immature, the protoconch is conical with 2+ protoconch whorls (Fig. 5), probably more than 3 (first whorls missing in the holotype) with an abapical keel on the last whorl and a sinusigeral notch, denoting a planktotrophic larval development. The last teleoconch whorl bears 6 varices and 5 low primary cords (P1-P5). P1 is the strongest, P2 and P3 are slightly weaker, similar in size, P4 is smaller, P5 is the smallest. The shoulder is smooth except for axial lamellae. The siphonal canal is short and broadly open. The aperture is small, the columellar lip smooth except for 3 small knobs abapically. There are 4 denticles within the outer lip (D1-D4), D1 is the strongest denticle.
Favartia funafutiensis resembles *F. philcloveri* from the Philippines (Fig. 23). However, *F. philcloveri* is larger (with one supplementary teleoconch whorl), has 6 obvious primary spiral cords on the last whorl (P1-P6), secondary cords, and numerous obvious lirae, including 7 or 8 on shoulder. P2, P3 and P4 are the strongest, almost similar in size, P1 is weakly narrower. P5 and P6 are the smallest. The aperture of *F. philcloveri* is comparatively larger with a small parietal tooth, a narrow, obvious ID and D1-D5 (D4-D5 fused).

Figures 9-23

9-14. *Favartia* (*Pygmaepterys*) *kernoi* n. sp.
9-13. Hawaii, dredged off Kihei, Maui, 20°39.180" N, 156°28.598" W to 20°38.650" N, 156°30.494" W, 170 m.
9-10. Holotype MNHN 25838, 10.7 mm; **11-12.** Paratype RH, 10.5 mm; **13.** Paratype IRSNB IG 32388/MT 2798 9.5 mm. **14.** Hawaii, dredged off Kihei, Maui, 20°39.868" N, 156°29.347" W to 20°38.812" N, 156°28.733" W, 128 m, paratype MS, 13.3 mm.
15-16. *Favartia* (*Pygmaepterys*) *funafutiensis* (Hedley, 1899), on W slope of Funafuti Atoll, Ellice Group, 8°29' S, 179°4' E, 73-146 m, holotype AMS C. 006004, 8.3 mm; **17-18.** *Favartia* (*Pygmaepterys*) *bellini* (D'Attilio & Myers, 1985), Japan, Okinawa, Ryuku Is, 52 m, holotype SDNHM 83065, 9.9 mm; **19-20.** *Favartia* (*Pygmaepterys*) *avatea* Houart & Tröndlé, 2008, French Polynesia, Austral archipelago, Rimatara, 22°38' S, 152°50' W, 250-280 m, holotype MNHN 20172, 11.2 mm; **21-22.** *Favartia* (*Pygmaepterys*) *lifouensis* Houart & Héros, 2012, New Caledonia, Loyalty Islands, Lifou, Baie du Santal, Shelter Reef, 20°54' S, 167°02' E, 100-120, holotype MNHN 24174, 11.5 mm; **23.** *Favartia* (*Pygmaepterys*) *philcloveri* (Houart, 1984), Bohol, Philippines, RH, 13.4 mm.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Both differ from *F. kernoi* n. sp. by their protoconch morphology and other shell characteristics.

Favartia (*P.*) *avatea* (Figs 7, 19-20) also resembles *F.* (*P.*) *kernoi* n. sp., however, the protoconch of *F. avatea* remains unknown. It differs in having a less shouldered shell, a broader and more strongly sloping shoulder ramp, weakly lower spiral cords, a more obvious P6 cord and shorter spinelets at intersection of axial and spiral sculpture. *F.* (*P.*) *avatea* also differs in having more numerous axial varices: 9 on second whorl, 7 or 8 on third and fourth and 6 on last whorl. The aperture also differs in being larger and more narrowly ovate with a deeper, narrower anal notch and higher, stronger denticles within the outer lip, with D1-D2 fused (Figs 6 and 7).

Favartia (*P.*) *lifouensis* (Figs 8, 21-22) differs in having a higher spire, narrower spiral cords, with additional IP, s1, s4, s5 and s6. The siphonal canal is comparatively broader and shorter. The aperture also differs in being more strongly ovate with a narrower, deeper anal notch and in having more obvious inner apertural denticles (Figs 6 and 8).

Favartia (*P.*) *bellini* (Figs 17-18) has a more lightly built, narrower shell with a higher spire, narrower and more numerous spiral cords, occasionally with primary and secondary cords of same strength. The apertural denticles in *F.* (*P.*) *bellini* are lower and more numerous, occasionally split.

Acknowledgements

We are grateful to Virginie Héros (Muséum national d'Histoire naturelle, Paris, France) for the loan of the type material of *Favartia* (*Pygmaepterys*) *avatea*, to Ian Loch and Janet Waterhouse (Australian Museum, Sydney, Australia) for the loan of the holotype of *Favartia* (*Pygmaepterys*) *funafutiensis*, to Margaret N. Dykens (San Diego Natural History Museum of California, USA) for the loan of the holotype and paratype of *Favartia* (*Pygmaepterys*) *bellini*, to Pauline Fienc (Maui, Hawaii, USA) for her comments and corrections on the manuscript, to Thierry Backeljau and the staff, Institut royal des Sciences naturelles de Belgique for collaboration in many ways, and to Shirley Speer (Maui, Hawaii, USA) for pulling thousands of feet of rope and sorting sloshing dredge spoils on a rolling boat with unwavering dedication.

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Mayr, E. 1989. Attaching names to objects. In: *What the philosophy of biology is : essays for David Hull* (M. Ruse, ed.), Klumer Academic, Dordrecht: 235-243.
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NOVAPEX/SOCIETE

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NOVAPEX
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Prochaines activités de la SBM

Claude VILVENS

Lieu de réunion : **A partir de 14h, à notre local habituel :**

Salle "Memling" (1er étage - ascenseur) - Rue de Genève, 470b – Schaerbeek (Bruxelles)

SAMEDI 7 SEPTEMBRE 2013

Tout le monde : Atelier "Posters de la SBM"

On connaît les posters édités par la SBM : au nombre de 3, ils montrent respectivement les Terrestres de Wallonie, les Dulcicoles de Wallonie et les Clausiliidae du monde entier. Ces posters sont très appréciés des naturalistes et constituent pour la SBM une belle carte de visite. Aussi, nous envisageons d'en créer de nouveaux, notamment "Coquillages du monde entier" (donc, un pour gastéropodes exotiques et un pour bivalves exotiques) et "Mollusques de Méditerranée" (mais ce ne sont que des exemples, toutes les idées seront les bienvenues dans la suite). Pour construire ces posters, **nous allons travailler en "live"** : nous vous demandons d'apporter **certaines de vos meilleures photos** de coquilles correspondant aux thèmes cités (bien sûr, des photos personnelles – pas des photos d'Internet protégées par copyright ;-) !). Nous construirons alors sur nos portables raccordés à un projecteur les posters souhaités. Un bon moyen de combiner connaissances et design ;-) ! Nous comptons sur vous !

***

SAMEDI 21 SEPTEMBRE 2013

Tout le monde : L'excursion d'automne de la SBM.

Cette fois, direction le Hainaut : nous allons prospecter sur le site du **terril du Six Perrier** à **Souvret** : *** **Rendez-vous 9h30-10h à la gare de Courcelles** ***

Comme d'habitude, les informations fraîches seront disponibles sur notre site Internet (**http://www.societe-belge-de-malacologie.be/ → Réunions**). Comme d'habitude aussi, il convient de prévoir d'emporter sa bonne humeur, un guide de détermination (j'en connais des pas mal ;-)) … et sans doute aussi bottes et vêtements de pluie (en principe, il fera encore doux et ensoleillé, mais bon, on ne sait jamais ;-) …).

***

SAMEDI 12 OCTOBRE 2013

Tout le monde : L'EXPOSITION ANNUELLE DE LA SBM.

Eh oui, voici revenu le rendez-vous quasi-rituel de l'exposition de coquillages par les membres de la Société. Nous occuperons l'une des deux salles **Memling** ou **Brueghel** au même étage de notre adresse habituelle de réunion, selon les disponibilités (voir à nouveau sur notre site Internet).

Cette exposition est l'occasion pour chacun de montrer l'un ou l'autre aspect de la malacologie qui lui tient à cœur. Aucune condition particulière n'est requise et tout le monde est cordialement invité à participer et aussi, bien sûr, à venir admirer quelques spécimens qui font la fierté de la collection de nos membres ! En particulier, **pourquoi ne pas inviter quelques-uns de vos amis à venir découvrir notre passion** ?

-- ***PUIS :*** La tradition du banquet sera aussi respectée en tant qu'événement gastronomique attendu : nous vous proposons en effet de nous retrouver au traditionnel **banquet annuel de la SBM** qui débutera à 19h (voir annonce ci-dessous)

*Réservez déjà dans vos agendas le **9/11/2012** et le **14/12/2012**.*

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Sur Internet :

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Banquet de la Société Belge de Malacologie

le samedi 12 octobre 2013 à 19h

au restaurant :

Le Phénix

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- donc juste à côté de la salle de réunion ! -

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- **Escalope** du chef-jambon, fromage, gratinée *OU* **Cabillaud** à la dijonnaise
- Bavarois aux framboises
- Café
- 1/2 bouteille de vin par personne{rouge, blanc ou rosé}

Extra à payer individuellement en supplément.

Prix : 33,50 €

Il est impératif de réserver afin que le restaurateur puisse nous réserver le meilleur accueil

Comment réserver ?

Pour le 1er octobre 2013, au plus tard, il convient de virer la somme correspondant au nombre de menus réservés au compte BBL : **310-1142433 – 53** de
Madame **Annie Langleit**, avenue Cicéron, 27/92 à 1140 – Bruxelles (pas de paiement à la SBM, s'il vous plaît !)

Afin de préparer au mieux cette soirée, vous voudrez bien communiquer à Annie (annie.langleit@skynet.be), après la réservation, vos **choix de plats** (entrée et plat principal) – le restaurateur nous en sera très reconnaissant !

Nous nous réjouissons de vous rencontrer lors de cette joyeuse activité !

Bonnes vacances à tous !!!

Novapex/Société : la publication généraliste de la SBM

Rédacteurs en chef : Claude Vilvens & Etienne Meuleman

Tous les articles généraux sont les bienvenus pour Novapex/Société ☺ !

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Rapana venosa (Valenciennes, 1846) en Mer de Marmara

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MOTS-CLEFS *Rapana venosa* - Mollusques épibiontes - Mollusques parasites - Mer de Marmara

KEY-WORDS *Rapana venosa* - Epibiontic molluscs - Parasitic molluscs - Marmara Sea

RÉSUMÉ

Sur des gros spécimens de *Rapana venosa* (Valenciennes, 1846) (Muricidae) - récoltés en Mer de Marmara - couverts d'algues, de concrétions calcaires et de vers, on peut identifier des mollusques épibiontes comme *Mytilaster lineatus* (Gmelin, 1791) (Mytilidae) présents en grand nombre. *Acanthochitona fascicularis* (Linnaeus, 1767) et *Chiton olivaceus* Spengler, 1797 (Polyplacophora) sont occasionnellement fixés dans l'ombilic de ces gastéropodes. Le test très épais et déjà endommagé par l'action perforante d'éponges est creusé de galeries et d'alvéoles abritant des mollusques bivalves perforants comme *Petricola lithophaga* (Philippson, 1788) (Petricolidae) et *Gastrochaena dubia* (Pennant, 1777) (Gastrochaenidae). Ces derniers peuvent être considérés comme parasites lorsque leur nombre met en danger l'intégrité de la coquille en la perforant de part en part.

ABSTRACT

On large specimens of *Rapana venosa* (Muricidae) - collected in the Marmara Sea - covered with algae, calcareous concretions and worms, one can identify a large number of epibiontic molluscs like *Mytilaster lineatus* (Gmelin, 1791) (Mytilidae). *Acanthochitona fascicularis* (Linnaeus, 1767) and *Chiton olivaceus* Spengler, 1797 (Polyplacophora) are occasionally fixed inside the umbilicus of the gastropods. The thick shell, already damaged by the action of perforating sponges, is carved into galleries and cells harbouring perforating bivalve molluscs like *Petricola lithophaga* (Philippson, 1788) (Petricolidae) and *Gastrochaena dubia* (Pennant, 1777) (Gastrochaenidae). These can be considered parasitic when their number endangers the integrity of the shell by perforating it all the way through.

INTRODUCTION

La Mer de Marmara établit le lien entre la Méditerranée et la Mer noire. La salinité de ses eaux est intermédiaire entre celles des deux mers limitrophes (Méditerranée 38 ‰ - Mer Noire 17-18 ‰). Le nombre d'espèces de mollusques qui y vit est moindre qu'en Méditerranée mais plus important qu'en Mer Noire (Oberling 1969-1971). Une population de *Rapana venosa* (Valenciennes, 1846), Muricidae invasif originaire de l'Océan Pacifique, y est implantée depuis de nombreuses années (Çinar et al. 2005). *Rapana venosa* atteint des tailles considérables (jusqu'à 18 cm) et les spécimens gérontiques sont souvent encroutés et associés à d'autres mollusques. La présence d'un petit Mytilidae - *Mytilaster lineatus* (Gmelin, 1791) - avait été signalée dans l'ombilic d'un individu récolté en Mer Noire (Anonyme 1990).

RÉCOLTES PERSONNELLES

En mai 2012, un lot d'une vingtaine de spécimens vivants de *Rapana venosa* (Valenciennes, 1846) a été acquis auprès d'un pêcheur à Marmara Ereglisi (Figs. 1 et 3) en Mer de Marmara (Turquie). Les gastéropodes ont été capturés au filet sur un fond sablo-fangeux entre six et dix mètres de profondeur. Les plus grands individus mesuraient de 15 à 16 cm. Les coquilles étaient couvertes d'algues, de balanes, de bryozoaires encroûtants, de vers tubicoles (*Spirobranchus* sp.) et d'éponges perforantes. Cette multiplicité d'épibiontes et de parasites était loin de donner un aspect attrayant aux coquilles (Figs. 4 - 5). Des spécimens récoltés 22 ans plus tôt en eaux plus profondes (30 à 40 mètres) au large de Tekirdag (Delongueville & Scaillet 2007) étaient quant à eux en parfait état de conservation et dépourvus d'épibiontes (Fig. 2). Si les individus collectés à Marmara Ereglisi n'étaient pas esthétiquement attrayants, ils avaient le mérite d'être très intéressants, car ils ont permis d'observer la présence de nombreux autres mollusques qui avaient élu domicile sur la coquille parmi les concrétions et même dans l'épaisseur du test.

Mytilaster lineatus (Gmelin, 1791) (Fig. 9) est un petit Mytilidae (15 à 20 mm) commun en Méditerranée, le long des côtes italiennes, grecques et turques, et en Mer Noire. Les spécimens étaient fermement fixés dans l'ombilic des *Rapana*, mais aussi entre les plis de la coquille, parmi les tubes calcaires des *Spirobranchus* ou même à l'intérieur de balanes vides (Figs. 6 et 7). Sur un spécimen haut de 14 cm (Fig. 6), il y en avait bien plus d'une centaine. Ce bivalve est parmi les plus abondants en Mer de Marmara (Oberling 1969-1971).

Acanthochitona fascicularis (Linnaeus, 1767) - Acanthochitonidae (Fig. 11) et *Chiton olivaceus* Spengler, 1797 - Chitonidae (Fig. 12) sont deux polyplacophores communs dans les eaux peu profondes de Méditerranée, de Mer de

Marmara et de Mer Noire. Un spécimen de chaque espèce avait élu domicile sur des coquilles de *Rapana*, profondément enfoncé et collé dans l'ombilic de ces gros gastéropodes.

Petricola lithophaga (Philippson, 1788) - Petricolidae (Fig. 10) - est un petit bivalve qui perfore les roches, les coraux et les coquilles vides ou vivantes. Il est fréquent en Atlantique depuis le golfe de Gascogne, le long des côtes ouest africaines ainsi qu'en Méditerranée et en Mer Noire. Quelques individus ont été récoltés dans des logettes creusées à l'intérieur des parois des coquilles de *Rapana* dont l'épaisseur dépassait à certains endroits 15 mm. On peut considérer ces bivalves comme des parasites puisque certains perforent totalement l'épaisseur du gastéropode forçant l'animal à reconstituer sa coquille à cet endroit.

Gastrochaena dubia (Pennant, 1777) - Gastrochaenidae (Fig. 13) - est un autre bivalve perforant connu en Europe (Atlantique - Méditerranée et Mer Noire) et qui attaque lui aussi les roches calcaires, les coraux et le test des coquilles. Ces bivalves étaient présents en très grand nombre (plusieurs dizaines) dans l'épaisseur du test des gros spécimens de *Rapana*. Les individus étaient enfermés à l'intérieur de petites loges creusées dans l'épaisseur de la coquille (Fig. 8), celles-ci communiquant avec l'extérieur par une petite tubulure dont l'extrémité prend la forme d'un « huit ». Pour des raisons identiques à celles citées dans le paragraphe précédent, ce bivalve peut également être considéré comme parasite lorsqu'il est présent en grand nombre et qu'il transperce l'épaisseur de la coquille déjà fragilisée par l'action perforante des éponges encroûtantes.

CONCLUSIONS

L'esthétique constitue la plupart du temps un critère de sélection dans le choix d'une coquille de collection. Cependant elle ne nous apprend rien de la biologie de l'animal. Par contre, un individu âgé, couvert de vie et dans un mauvais état de conservation de la coquille est d'un tout autre intérêt. Il nous parle des cohabitations positives, négatives ou neutres qui existent entre espèces dans un milieu donné. A ce titre, les spécimens de *Rapana venosa*, collectés en Mer de Marmara illustrent parfaitement cette évidence. Cinq espèces de mollusques épibiontes et/ou parasites ont été identifiées sur des individus gérontiques de ce gros gastéropode : *Mytilaster lineatus*, *Acanthochitona fascicularis* et *Chiton olivaceus* en surface du test, *Petricola lithophaga* et *Gastrochaena dubia* dans l'épaisseur même de la coquille. Pour certaines de ces espèces, le nombre d'individus en surface ou dans l'épaisseur de la coquille peut dépasser la centaine d'individus.

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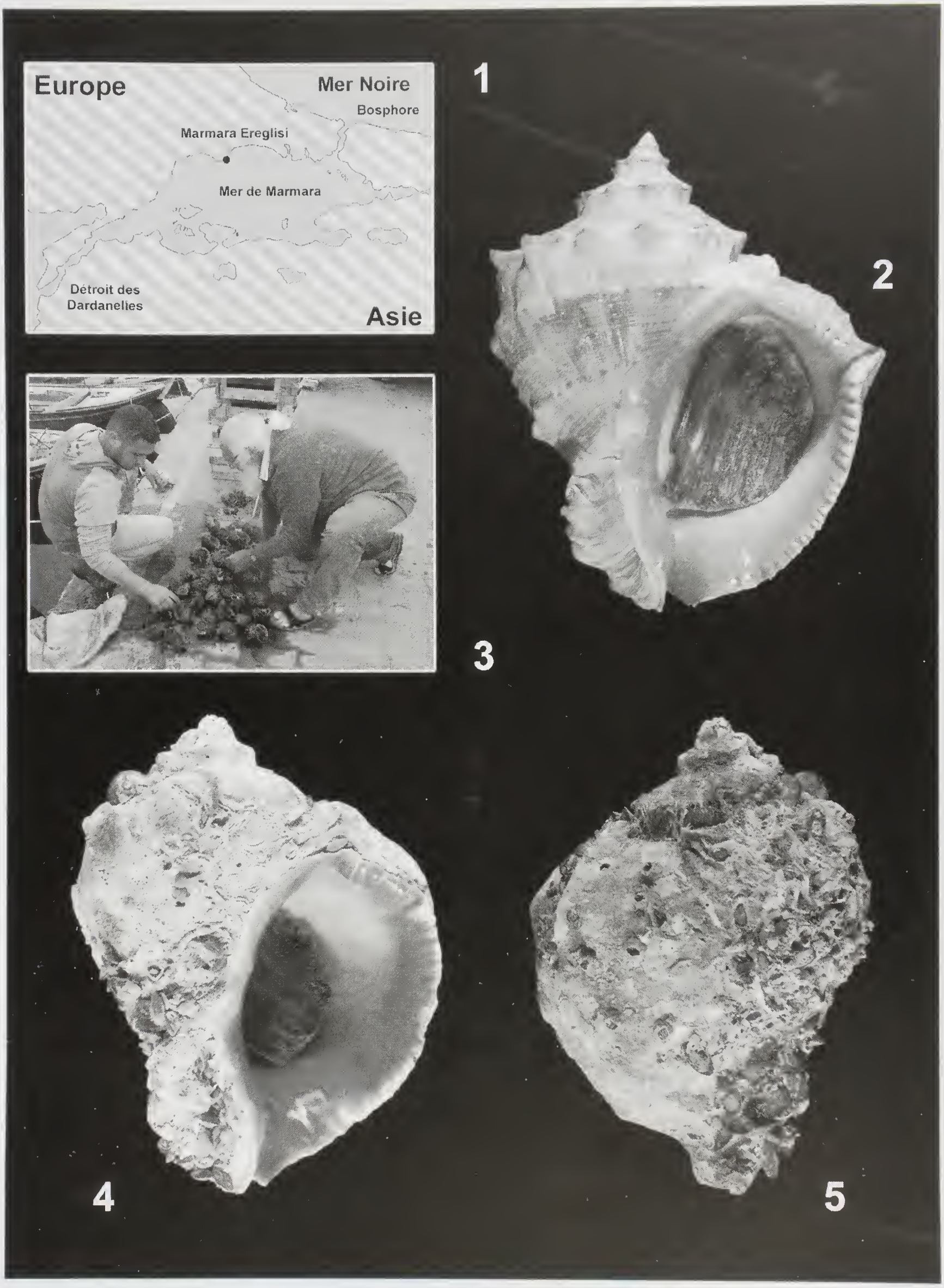
LÉGENDES

Fig. 1. Carte de la région de la Mer de Marmara - Turquie. **Fig. 2.** *Rapana venosa*, 14,1 x 11,3 mm - Tekirdag (29.04.1990). **Fig. 3.** Récolte de *Rapana venosa* à Marmara Ereglisi (11.05.2012). **Figs. 4 - 6.** *Rapana venosa*, 13,0 x 10,0 mm - Marmara Ereglisi (11.05.2012). **Fig. 7.** *Mytilaster lineatus* sur *Rapana venosa*. **Fig. 8.** Fragment de coquille de *Rapana* percé par *Gastrochaena dubia*. **Fig. 9.** *Mytilaster lineatus*, 9,2 x 6,9 mm. **Fig. 10.** *Petricola lithophaga*, 6,6 x 5,1 mm. **Fig. 11.** *Acanthochitona fascicularis*, 10,8 x 5,1 mm. **Fig. 12.** *Chiton olivaceus*, 14,3 x 8,3 mm. **Fig. 13.** *Gastrochaena dubia*, 5,4 x 2,5 mm.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Mer Noire
Bosphore
Marmara Ereglisi
Mer de Marmara
Détroit des Dardanelles
Asie
1
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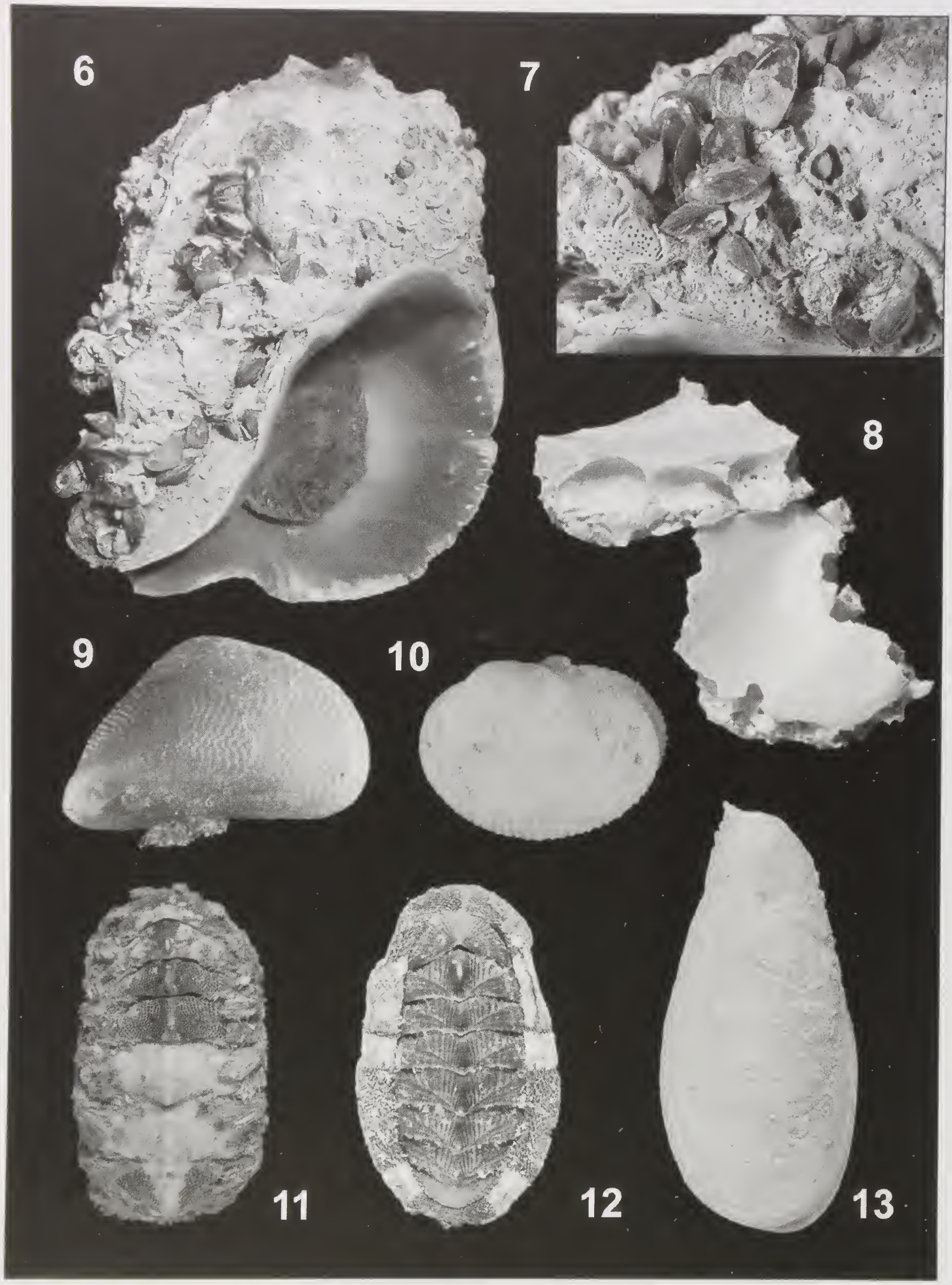
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Espagne, plage de Tarifa le 26 février 2013. 1 kg de laisse de mer réduit à 2 g de coquilles à déterminer

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Du boulot en perspective …

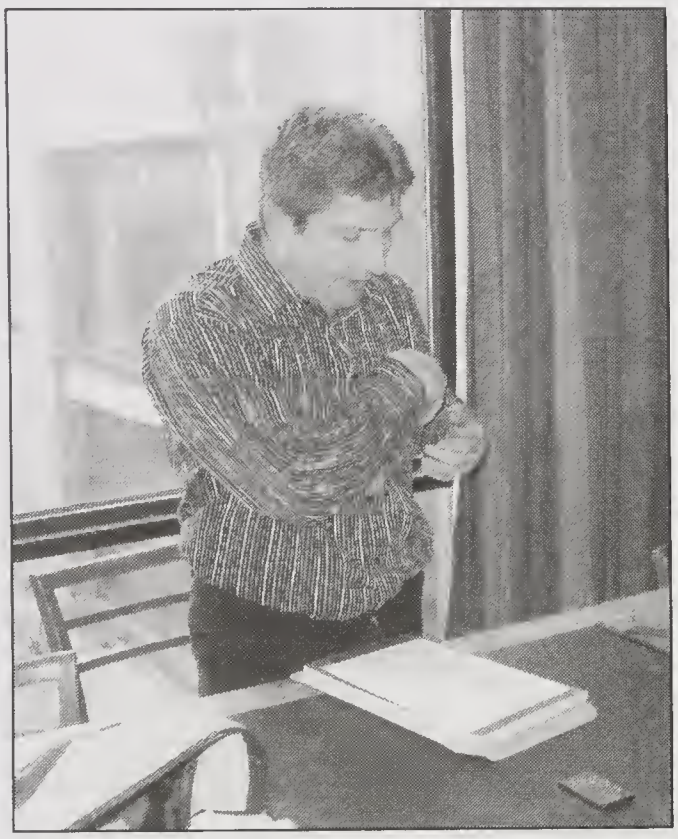
L'Assemblée Générale de la Société Belge de Malacologie du 23 mars 2013

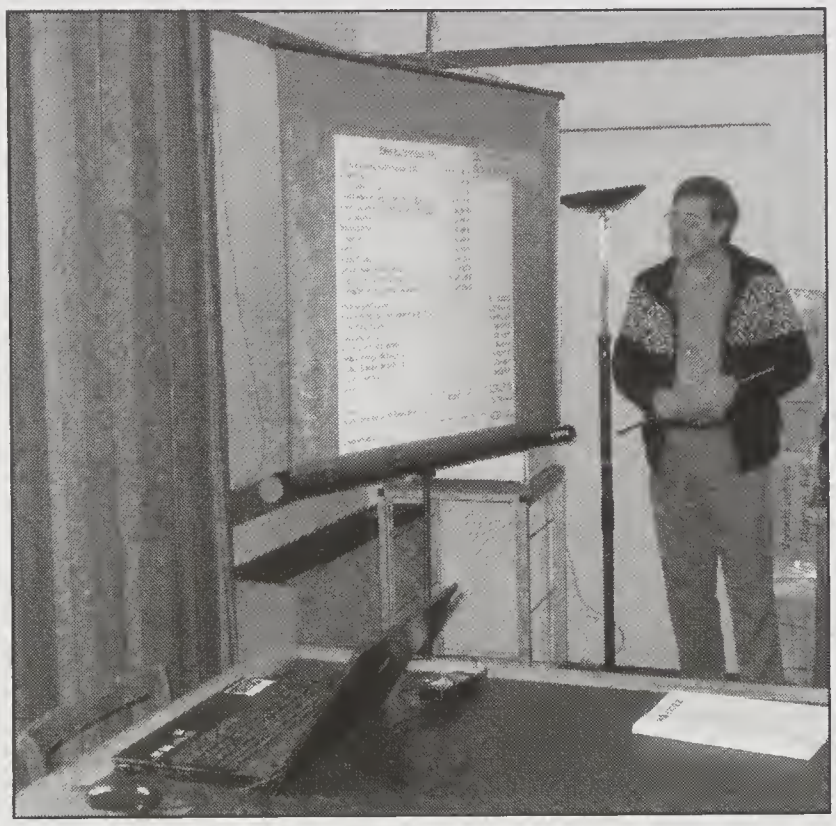
Claude VILVENS, Roland HOUART, Etienne MEULEMAN et Marc ALEXANDRE

Conformément aux statuts de la Société Belge de Malacologie A.S.B.L., nous nous sommes réunis en Assemblée Générale le samedi 23 mars 2013 pour commenter ce qui a été réalisé en 2012, pour préparer nos réalisations de 2013 et pour fixer les cotisations de 2014.

Les thèmes suivant ont été discutés lors de cette assemblée:
- le **rapport moral** qui contient un compte-rendu de nos **réunions,** de nos **excursions**, de nos **publications**;
- un aperçu du **conseil d'administration,** des **membres** de la SBM, du **site Web** et de la **bibliothèque**;
- le **rapport financier** (bilan de l'exercice 2012 et prévisions budgétaires pour 2013);
- le tout était soutenu grâce à une projection Power Point.

Après l'AG, le conseil d'administration s'est réuni pour mettre en place le Conseil d'administration.





1. RAPPORT MORAL

1.1 Les réunions

En 2012, nous nous sommes retrouvés 8 fois au cours de réunions (dans notre local situé rue de Genève, 470b à Schaerbeek) et 2 fois au cours d'excursions. Au cours de ces réunions, nous avons donc eu successivement comme exposés ou activités :

1) Le **11 février 2012** : **Marc Alexandre** avec une projection **"Si Darwin m'était compté"**.

2) L'**Assemblée Générale** du **17 mars** nous a permis comme tous les ans de faire le point sur ce qui avait bien ou moins bien fonctionné en 2012. Un quizz visuel proposant des vues de coquilles dont il fallait déterminer l'espèce correspondante, agrémentait la séance. Un cadeau a été offert à nos membres fidèles. Comme toutes nos assemblées générales, celle-ci s'est également clôturée par le verre de l'amitié.

3) Le **21 avril**, **Roland Houart** nous a proposé une conférence sur **les Muricopsinae (suite et fin) et les Ocenebrinae (1ère partie)**.

4) Le **16 juin** fut la journée de notre "**quiz malaco**" : un tirage de type loto-bingo déterminant la question posée par Powerpoint. Plusieurs membres ont ainsi remporté des prix sous forme de coquilles destinées à enrichir leur collection.

5) Le **8 septembre**, lors de la reprise de contact après les deux mois de vacances, **Chris Vos** nous a entretenu de **la Famille des Tonnidae**, suivi d'un atelier de détermination très bien mené.

6) Le **20 octobre**, nous avons présenté notre **exposition** réalisée par les membres de la SBM : une manifestation devenue incontournable depuis de très nombreuses années. Il s'agissait de la 27ème édition. On ne peut que souligner la qualité, mais aussi la diversité, des thèmes proposés et il faut remercier les auteurs des 6 stands proposés :

- Christiane Delongueville & Roland Scaillet : Muricidae européens prédateurs de bivalves
- Marc Hilbert : Quelques coquilles sénestres
- Annie Langleit : Quelques belles volutes
- Roland Houart : Les Coralliophilinae (Gastropoda : Muricidae)
- Claude Vilvens : Quelques Troques d'Amérique du Sud
- Etienne Meuleman : La Famille des Malleidae Lamark 1818

Un large compte rendu illustré a été fourni dans Novapex/Société.

7) Le **17 novembre**, nous avons organisé une **séance de déterminations pour la collection de la S.B.M.** : il s'agit ici de la future collection didactique de la S.B.M., destinée à soutenir visuellement nos manifestations futures.

8) Le **15 décembre, Roland Scaillet** et **Christiane Delongueville** nous ont présenté **Richesse malacologique sur les côtes du détroit de Gibraltar**.

Peu de sociétés peuvent s'enorgueillir d'un tel agenda d'activités : c'est l'occasion de remercier chaleureusement toutes celles et tous ceux qui ont consacré beaucoup de temps à la préparation de ces exposés qui font que notre ASBL mérite bien le nom de "Société Belge de Malacologie". Ces réunions sont une occasion de rencontre et elles nous offrent également l'opportunité d'échanger des idées, des nouvelles, des impressions, et de s'offrir le ou les coquillages recherchés grâce aux très sympathiques membres qui apportent des coquillages et qui garnissent nos tables !

1.2 Nos excursions et activités extérieures

Nous avons également exploré plusieurs sites intéressants de la région wallonne :

1) la **réserve Aux Roches à Chokier** le **2 juin 2012** avec Natagora Liège et Basse-Meuse et le conservateur très accueillant. Objectif, outre mettre à jour nos relevés dans cette zone : permettre aux naturalistes de Natagora de découvrir le monde des escargots et des limaces avec des guides de la SBM.

2) la **réserve du Scheutbos à Molenbeek-Saint-Jean** le **29 septembre 2013**, en collaboration avec son conservateur et avec des objectifs similaires.

Comme nous en avons pris l'habitude, nous avons distribué des "**éventails escargots**", cette clé simplifiée des escargots et limaces les plus courants en Wallonie que le public apprécie beaucoup. Ces excursions nous ont permis de compléter très utilement l'inventaire de la faune malacologique en Wallonie et en Belgique.

Il faut également signaler, sous le label "**La SBM sort de ses murs**" :

- **initiation à la malacologie** le **21 avril 2012** chez les naturalistes de Natagora à Liège par **Claude Vilvens**;
- le stand à la **journée de l'eau** à **Mons** le **25 mars 2012** tenu par **Etienne Meuleman**;
- la participation à la **journée des 1000 espèces** le **30 juin 2012** dans le **Tournaisis** : la SBM était représentée par Claude Vilvens, Etienne Meuleman et Myriam Vilvens.

1.3 Nos publications

a) Novapex

Trois numéros dont un **numéro double** ont été publiés en 2012. Comme l'an dernier les auteurs furent nombreux. Neuf nations furent représentées: la France, les Etats-Unis, l'Allemagne, l'Indonésie, l'Espagne, Cuba, le Royaume-Uni, Malte et la Belgique.

Le **Volume 13 de Novapex** a totalisé **119 pages**. Les numéros ordinaires ont rassemblés 16 articles des auteurs suivants: C. Vilvens (Belgique), R. Houart (Belgique), E. Rolán, F. Rubio et T. Ibarrola (Espagne), D.P. Cilia (Malte), H.G. Lee, C. Redfern et R.A. Salisbury (Etats-Unis), R. Fernandez-Garcés (Cuba), A. Wakefield (Royaume-Uni), R. Lebéon, J. Tröndlé, J. Letourneux et J. Pelorce (France), et M. Herrmann (Allemagne).

Comme tous les ans, les familles et super-familles abordées furent variées: Trochoidea, Seguenzioidea, Muricidae, Turbinidae, Olividae, Rissooidae, Mangeliidae, Columbellidae, Costellariidae et Camaeinidae se sont partagés les trois numéros.

Vingt-six nouvelles espèces ont été décrites, ce qui porte le total des nouvelles espèces décrites dans Novapex, depuis sa création en 2000, à 549 et le nombre de nouveaux genres à 4. Ces articles ont également comportés un total de 10 planches photos en couleur, 23 en noir et blanc et de nombreuses figures ou photographies dans le texte. 2012 fut une fois de plus positif du point de vue des articles reçus et publiés dans Novapex.

Nous garderons bien sûr la même orientation avec toujours le même objectif (il n'a pas changé depuis plusieurs années): faire progresser la science et contribuer à la connaissance du petit monde des mollusques. Ceci dépendant néanmoins de notre budget, car nous sommes en effet tributaires des cotisations, des dons, du remboursement de quelques planches couleurs et des subsides pour ce qui concerne les dépenses effectuées pour nos publications.

b) Novapex/Société

Sur un total **150 pages** (170 en 2005, 175 en 2006, 171 en 2007, 141 en 2008, 172 en 2009, 153 en 2010, 132 en 2011) dans 4 fascicules agrémentés de planches et illustrations, le magazine généraliste de la SBM nous a proposé :

1) les articles originaux suivants :
C. Delongueville & R. Scaillet

- Relations trophiques entre quelques Pyramidelloidea et leurs hôtes
- Coup de gueule : La pêche à pied, le génocide des invertébrés de l'estran breton
- Illustration de Buccinum cyaneum Bruguière, 1792 dans l'Atlantique Nord-Est
- Talochlamys pusio (Linnaeus, 1758) dans l'Atlantique Nord-Est et en Méditerranée Occidentale
- Les marées de 2013

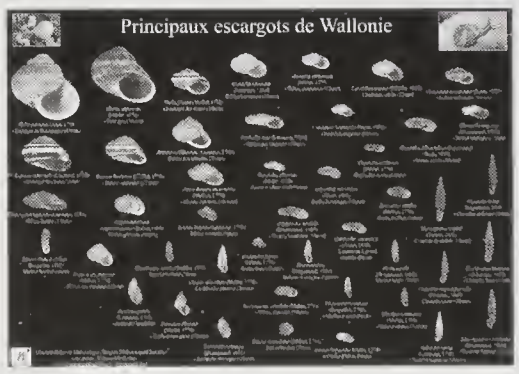
2) les **comptes-rendus d'événements de la vie de la SBM** comme l'Assemblée Générale de la Société Belge de Malacologie de 2010, l'exposition 2010 de la SBM et "A propos de nos membres"

3) les **rubriques habituelles** "Prochaines activités", "Quoi de neuf ?", "Quelques nouvelles publications", "Nous avons reçu", "Morceaux choisis" et "L'écho des réunions".

4) les **compte-rendus d'excursion :** avec photos et liste de récoltes par site.

c) Les mollusques terrestres et dulcicoles de Belgique (5 tomes - 400 exemplaires vendus – on a encore réimprimé ...) et **Les gastéropodes terrestres communs d'Europe** (2 tomes parus - 40 exemplaires des tomes I et II vendus)

d) Les posters
Les posters "Principaux escargots de Wallonie" et "Principaux mollusques d'eau douce de Wallonie" ont remporté un succès certain auprès du public naturaliste.



1.4 Le conseil d'administration

Le conseil d'administration se réunit généralement après chaque réunion pour discuter de points importants concernant la vie de la Société: le calendrier des prochaines activités, la trésorerie, Novapex et Novapex/Société, le site internet, la bibliothèque mais aussi les tarifs postaux, la publicité, les cotisations, la liste des membres, et mille autres choses... Comme tous les ans également, nous voudrions encore vivement rappeler que toute personne désirant faire partie de ce comité est évidemment plus que la bienvenue. Il n'y a pas de condition, sinon celle de faire partie de la Société en tant que membre ordinaire, et bien sûr, de passer par les élections.

1.5 Les membres

Nous comptions 124 membres effectifs en ordre de cotisation pour 2012 dont une douzaine d'institutions. La répartition géographique était de 44 membres (+1 familial) résidant en Belgique et 79 hors Belgique. De nouveaux membres nous ont rejoint tout au long de 2012 (et cela semble continuer en 2013)
Nous comptions une quarantaine d'échanges en 2011.

1.6 Le site web

Une **soixantaine de pages html** agrémentées de nombreuses photos :

- un fournisseur d'informations générales : présentation de la SBM, de ses contacts, présentation de la malacologie, dates des grandes marées

♦ un serveur d'informations pratiques : agenda des réunions, annonces et informations pratiques pour les excursions, aspccts divers de la vie de la soeiété, publicité pour les brochures des Terrestres,
♦ une référence didactique : table des matières de Novapcx par auteurs (bientôt, idcm pour Novapex/Société), dictionnaire de malaeologie en français, bibliographies de malaeologues célèbres, deseription d'expéditions maritimes célèbres ainsi que nombreux liens utiles
♦ une galerie de photographies illustrant lc monde des mollusques : sans doute la partie du site qui intéressera le plus le grand publie.

D'après les statistiques de notre serveur d'hébergement, le site de la SBM reçoit entre 500 et plus de 700 visites par mois. Il faut cependant déplorer que peu de nouvelles pages didaetiques (malaeologues, définitions de terme, expéditions) aient été ajoutées durant 2012.

1.7 La bibliothèque

La bibliothèque de la SBM continue à s'étoffer, les revues en provenance de nombreux pays européens et extra-européens nous parviennent régulièrement. Vous pouvez d'ailleurs vous en rendre eompte lors de la présentation des nouveautés par Claude au début de nos diverses reneontres.

N'oubliez pas non plus que cette doeumentation est aeeessible à tous et consultable sur simple demande. La reeherehe d'artieles sur eertains sujets est facilitée aetuellement grâee à Internet qui offre des moteurs de recherches pratiques pour vous diriger vers certaines bases de données (de plus en plus de sommaires de revues sont eonsultables sur la toile).

2. RAPPORT FINANCIER

Le **rapport financier** (bilan de l'exereiee 2011 et prévisions budgétaires pour 2012) a été présenté aux membres.

Bilan de l'exercice 2012

Solde créditeur au 1er janvier 2012	12.672,35 €	
Cotisations	6.050,32 €	
Vente publications	375,37 €	
Vente édition Terr. Belgique + Terr. Vac.	858,10 €	
Remboursement planches couleur et publ.	00,00 €	
Dons anonymes	129,00 €	
Bibliothèque	00,00 €	
Tombola	00,00 €	
Publicité	45,00 €	
Vente Posters	14,00 €	
Intérêts fond de roulement	116,65 €	
Subsides Région Wallonne 2012	0.000,00 €	
Subsides Gouvernement Wallon 2012	0.000,00 €	
Frais de publication		6.978,12 €
Frais édition Terr. Belgique + Terr. Vac.		1.351,90 €
Frais d'expédition		1.645,58 €
Location salle 2012		360,00 €
Abonnements aux revues		327,45 €
Gestion Banque de la Poste		81,97 €
Gestion Banque ING		141,53 €
Achat Collection		200,00 €
Divers		395,16 €
Totaux	20.260,79 €	11.481,71 €
Solde créditeur au 31 décembre 2012	-	8.779,08 €
Total général	-	20.260,79 €

Prévisions budgétaires pour 2013

Solde créditeur au 1er janvier 2013	8.779,08 €	
Cotisations	6.200,00 €	
Subsides Région Wallonne 2012	1.500,00 €	
Subsides Région Wallonne 2013	1.500,00 €	
Vente édition Terr. Bel. + Terr. Vac.	950,00 €	
Frais de publication		8.000,00 €
Frais édition Terr. Dulc. Belgique		300,00 €
Frais édition Terr. de vos vacances		1.500,00 €
Frais d'expédition		1.800,00 €
Location salle		360,00 €
Abonnements aux revues		350,00 €
Gestion Banque de la Poste		80,00 €
Gestion Banque ING		145,00 €
Divers		350,00 €
Totaux	18.929,08 €	12.885,00 €
Solde créditeur au 31 décembre 2013		6.044,08 €
Total général		18.929,08 €

Décharge est donnée aux administrateurs.

3. ELECTIONS

Le mandat d'un administrateur, Mr Etienne Meuleman, est arrivé à son terme. Sa candidature à renouveler son mandat a été reçue dans les formes. Aucune autre candidature n'a malheureusement été reçue. Mr Etienne Meuleman a été réélu à l'unanimité au Conseil d'administration.

4. COTISATIONS 2014

Malgré, notamment, l'augmentation des frais en relation avec nos publications (frais d'envois, frais d'impression), il a été proposé de conserver les cotisations inchangées pour l'année 2014. Cette proposition a été acceptée à l'unanimité par un vote à main levée.

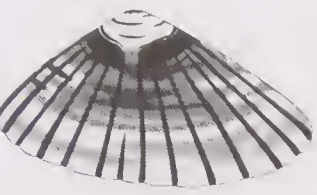
5. DIVERS

Comme chaque année, nous avons clôturé l'assemblée générale par un petit cadeau, ceci afin de remercier les membres présents de nous avoir accompagnés tout au long de cette année 2011. Cette année, il s'agissait d'une boîte de pralines en forme de coquillages.

Cette assemblée nous a permis de redécouvrir quelques belles coquilles puisque l'ensemble de l'exposé était agrémenté qu'un quizz visuel proposant un résumé de la nouvelles systématique des gastéropodes avec des photos de mollusques représentatifs.

Ensuite fut offert le traditionnel **verre de l'amitié** !

MERCI A TOUS d'être venus nombreux pour nous soutenir lors de cette Assemblée Générale !



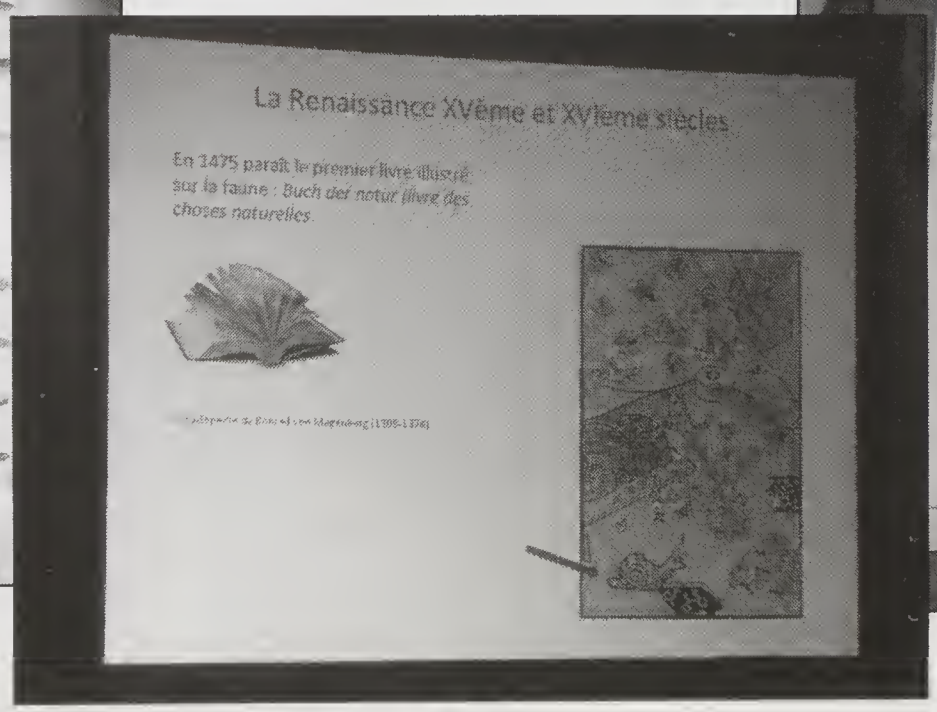
L'écho des réunions

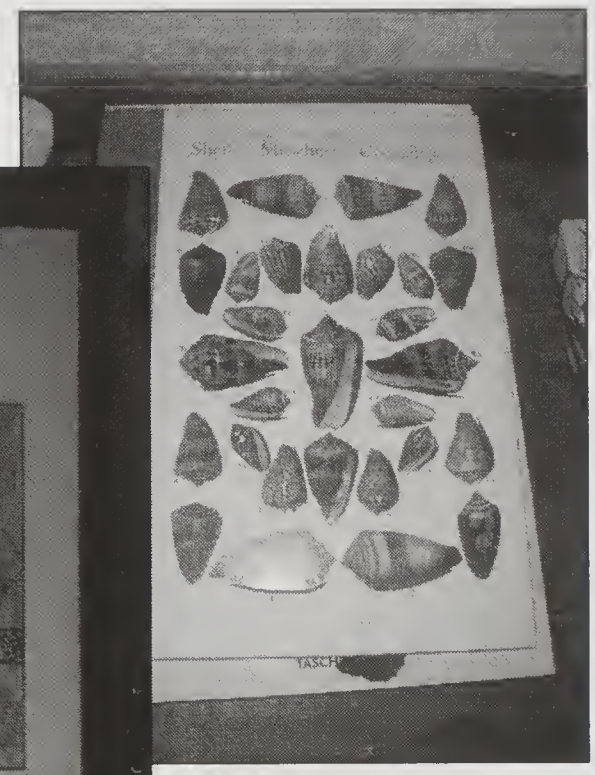
Étienne MEULEMAN et Claude VILVENS

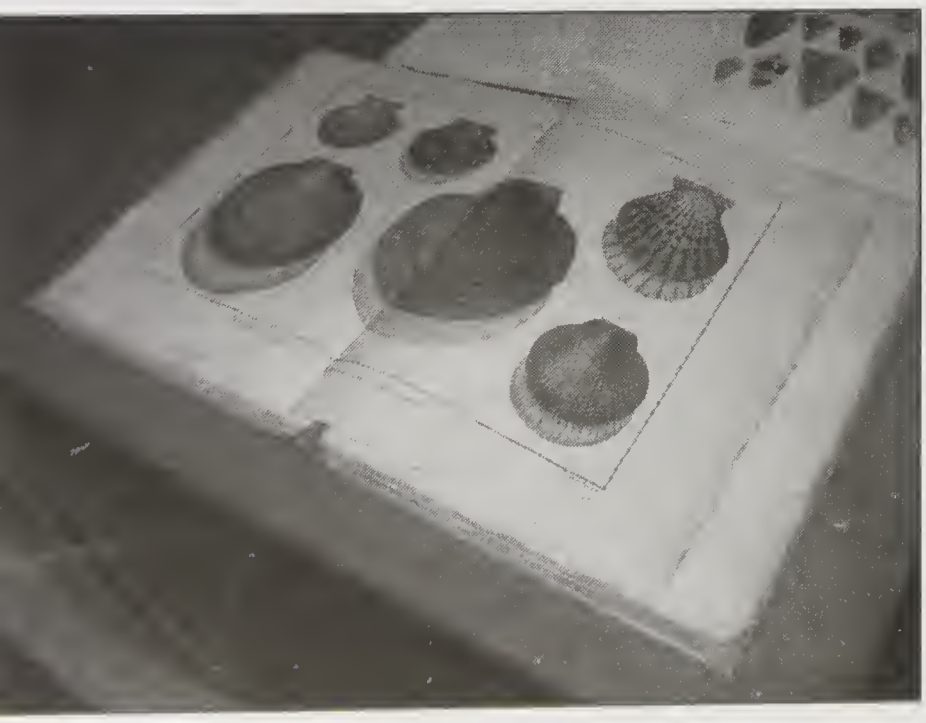
Réunion du 23 février 2013 (EM) → **E. Meuleman : A la découverte des coquillages au travers de l'illustration naturaliste**

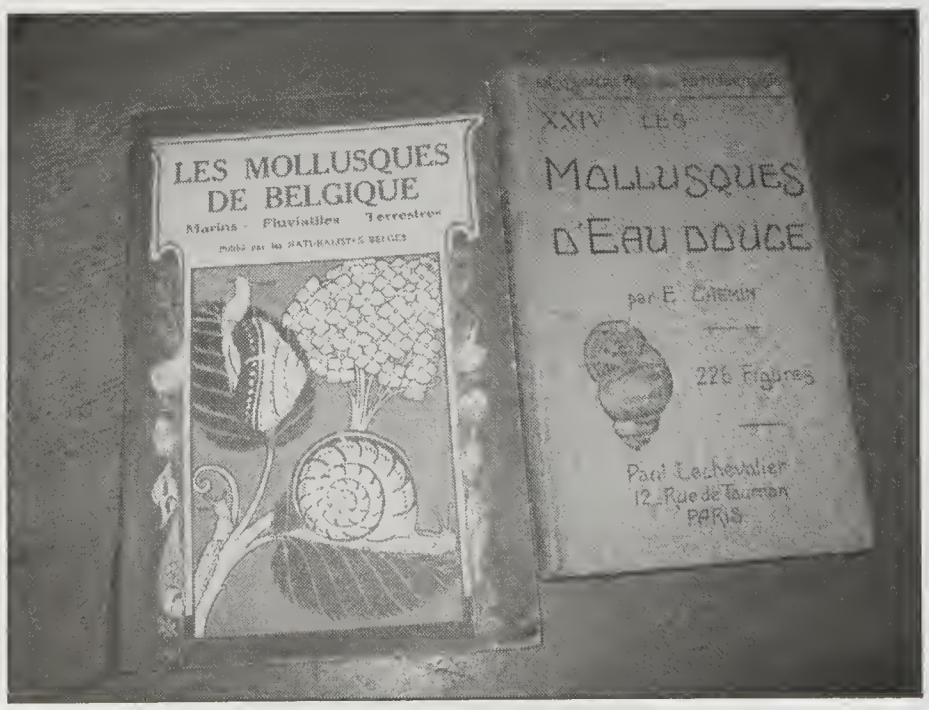
Depuis la Renaissance, les scientifiques et les artistes ont utilisé les représentations naturalistes pour que le grand public puisse découvrir les merveilles de la nature. Mais plus qu'un beau dessin, ces représentations permettent aux naturalistes amateurs et professionnels de répertorier et de déterminer la faune (ou la flore) du monde qui les entoure.

C'est grâce à de nombreuses illustrations que notre conférencier à présenté cette conférence qui a permis aux participants de voyager au travers des âges. L'évolution des moyens et des techniques permettent à l'heure actuelle au commun des mortels de réaliser de merveilleuses illustrations. Ce travail était réservé à quelques privilégiés il n'y a pas si longtemps que cela.







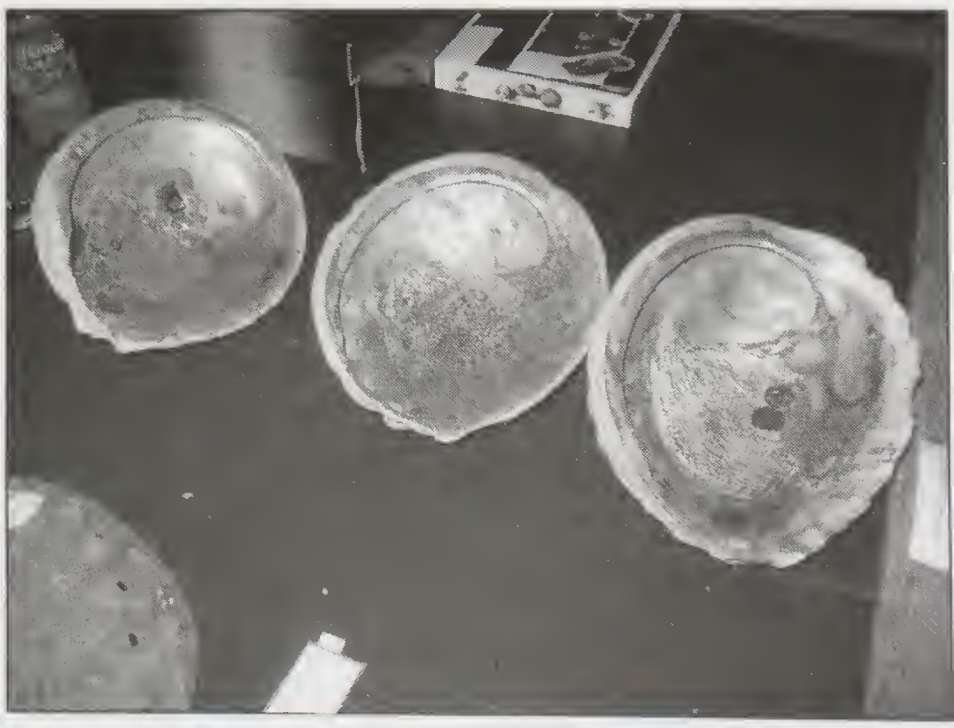


Réunion du 27 avril 2013 (CV) → M. Alexandre : Un panorama des Haliotidae

Notre trésorier nous a donc emmenés dans sa famille de prédilection, les Haliotidae.

Après avoir dressé un tableau complet des espèces du genre *Haliotis*, et en évoquant les synonymies et autres problèmes de systématique, Marc a entrepris de nous initier aux ficelles de la détermination des Haliotis par un procédé original et didactique. En effet, tout en décrivant des caractéristiques discriminantes, il nous a invités à déterminer quelques coquilles que nous tenions dans nos mains. Grâce à ses explications, nous y sommes arrivés, mais bon, il avait choisi une espèce facile à déterminer ;-).

Un très agréable et instructif moment de malacologie ☺ Merci Marc !



Quelques nouvelles publications

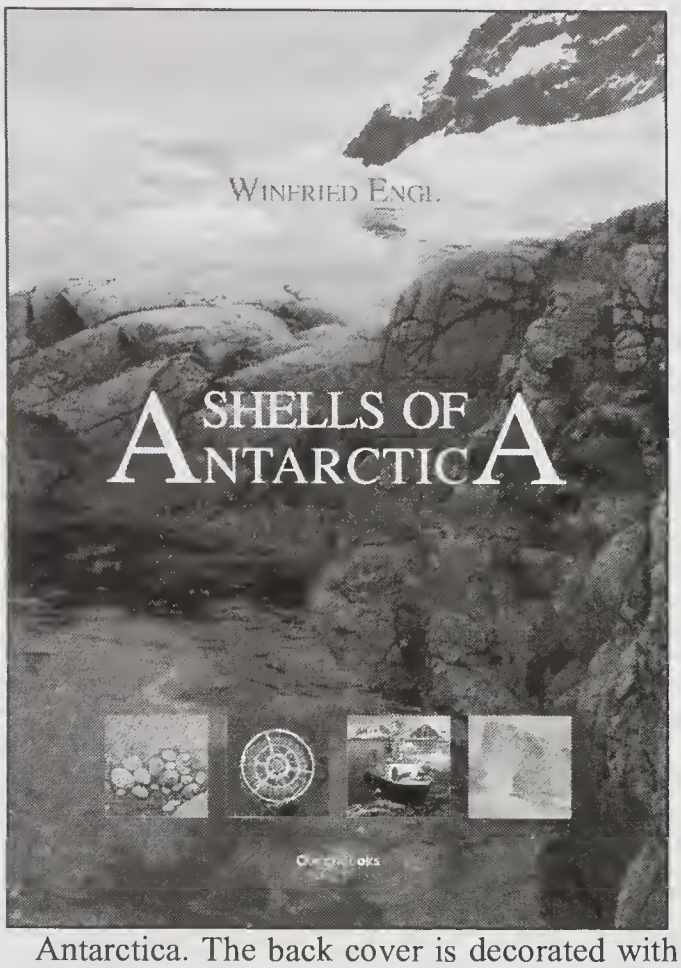
Yves TERRYN

Shells of Antarctica

par **Winfried Engl**

First published in 2012 by ConchBooks
ISBN 978-3-939767-44-2
In English, hardcover, 402 pp, 88 pls, numerous text figs and map

Price: 148 euro/approx. £130 - available from www.conchbooks.de



'*Djinn*' translates from Arabic as 'that what remains hidden'. The meaning in Arabic can also be interpreted as: concealed, hidden in time or encircled by a wall. Nothing is more appropriate to describe the 'Shells of Antarctica' by Winfried Engl. For the first time, the information provided in this book has now become available to both the collector and the scientific community. Never before has such a comprehensive overview of the molluscan fauna of the Antarctic been published that enumerates and illustrates all known species.

Winfried Engl, from Düsseldorf, is involved with malacology for more than 4 decades and published his findings and described new species in dozens of articles. He is a celebrated author and was awarded both the Ritter-von-Spix medal of the Bavarian State Collection (ZSM) in 1999 for expanding their collections, and the Cedemar Species Award in 2010 for the description of 15 new species. Altogether he has described more than 20 species from Antarctica. The work for this book, started in 2000, took more than a decade to complete ever since Winfried started working on the molluscan assemblage retrieved from the *Polarstern* ANT XVII/3 expedition.

The cover of this book is adorned with an inviting intertidal scene, shot on the Antarctic Peninsula with insets of a typical rocky intertidal outcrop, deep sea research equipment and ice flows, so iconical of Antarctica. The back cover is decorated with typical representatives of a few families: limpets, bivalves, muricids and trochids inviting the reader towards the plates within the book. The inside cover has a colour map of Antarctica, which facilitates the reader to trace back major geographical areas and island groups. The book is dedicated to his wife Nilgün, for her never-ending support throughout the many years of work invested in this book.

The author in his short introduction explains the background by placing historical collection efforts, discoveries and publications (e.g. Powell, 1960; Dell, 1990) into perspective He limits of the area of investigation to within the Antarctic Convergence, and the scope of the information given for each species in the book. There is listed a table outlining the chronological overview of molluscan collecting and discoveries within Antarctic waters.

Molluscan collecting started in 1873 on the famous voyage of the HMS *Challenger*, followed by a myriad of expeditions from Western European countries (including British *Southern Cross* and Scottish National Antarctica expeditions) to more recent endeavors by New Zealand, Spain, the former Soviet Union and Germany with their ongoing *Polarstern* expeditions. Winfried had the opportunity to study all the recently collected material from the various *Polarstern* expeditions, which span over almost 2 decades (1985-2005).

The main part of the book consists of two sections: firstly a systematic listing of gastropods and bivalves with a black and white image for each species where possible, and the second section consisting of figures on 88 colour plates. The systematic part lists 87 bivalve species from 40 genera in 24 families and 336 known gastropod species, from 130 genera in 49 families. In addition, a number of species from adjacent areas are discussed for comparison.

The particularly diverse fauna of the Antarctic waters is shown to be rich for the species from the bivalve genera: *Cuspidaria* (9 species), *Yoldiella* (7) and *Limopsis* (7) and *Philobrya* (5) and for the gastropod genera: *Prosipho* (22),

Onoba (13), *Melanella* (11), *Brookula* (9), *Trophon* (9), *Pleurotomella* (9), *Lissotesta* (8) and *Cerithiella* (8). The richest family in the Antarctic is without doubt the Buccinidae with 50 species in 20 genera, followed by the Turridae with 32 species. A comparison with the Arctic fauna shows a similar dominance of these two groups.

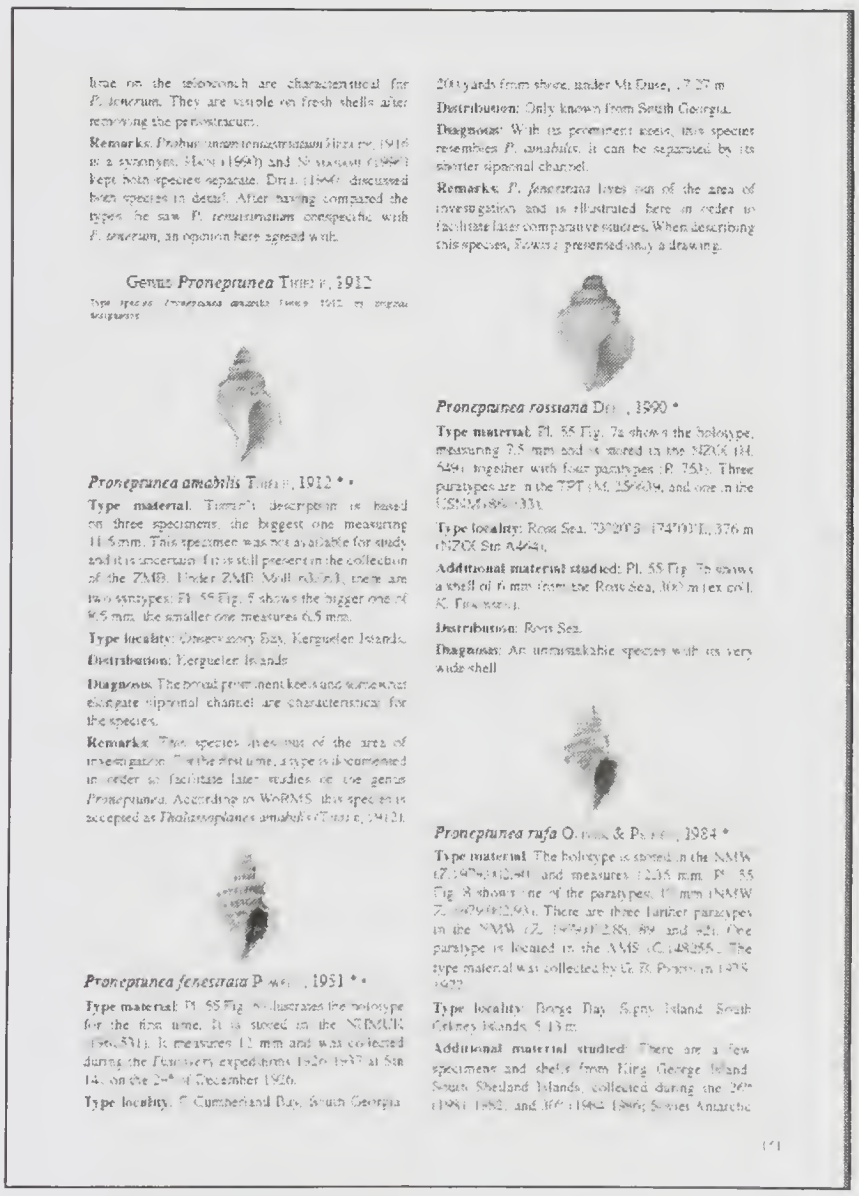
The taxonomical listing for each species is subdivided into several parts: a full name, synonymy; type material, type locality, a brief diagnostic with remarks as to differentiate the species from allied taxa and includes additional material studied, with emphasis on the *Polarstern* collection. Within the book the genus *Prosipho,* from the Buccinidae family, is extensively discussed and excellently figured on the plates and comparative plates.

The second section has the 88 colour plates containing images of almost all species (by their type, often illustrated for the first time in this book – and by additional specimens), which is an invaluable asset for the study of the Antarctic fauna. The plates are of good quality, considering the often-small size of the majority of shells, and therefore allow comparison with allied taxa. Great attention has been paid to the micro-shells, which are printed large enough from the scanning electron microscope (SEM) images to distinguish fine sculptural features. To those who say that cold-water shells can never be beautiful, this book proves them wrong.

In addition to the two parts discussed here, Winfried gives the reader a detailed listing of the relevant *Polarstern* and Soviet Antarctic expeditions from which the author opens up a 'enclosed world' to the reader. This includes a separate chapter describing life and labor on board the research icebreaker *Polarstern* - a floating multidisciplinary laboratory and supply vessel. Finally there is an extensive bibliography.

The book is a result of a huge undertaking which spanned decades and only made possible by the kind assistance of a large number of amateur malacologists, scientists and institutions. It goes without say that a magnificent book on such a difficult topic will not be repeated any time soon and that it has no comparison that matches even remotely its quality in scientific prudence and photographic imagery.

Yves Terryn



lirae on the teleoconch are characteristical for *P. tenerum*. They are visible on fresh shells after removing the periostracum.

Remarks: *Drobus unamtenuizonatum* Dall, 1916 is a synonym. Hain (1990) and Numanami (1996) kept both species separate. Dall (1916) discussed both species in detail. After having compared the types, he saw *P. tenuizonatum* conspecific with *P. tenerum*, an opinion here agreed with.

Genus *Proneptunea* Dall, 1912

Type species: *Proneptunea amabilis* Dall, 1912, by original designation

Proneptunea amabilis Dall, 1912 * •

Type material: Dall's description is based on three specimens, the biggest one measuring 11.6 mm. This specimen was not available for study and it is uncertain if it is still present in the collection of the ZMB. Under ZMB Moll. 60.[illegible], there are two syntypes: Pl. 55 Fig. 5 shows the bigger one of 9.5 mm, the smaller one measures 6.5 mm.

Type locality: Observatory Bay, Kerguelen Islands.

Distribution: Kerguelen Islands

Diagnosis: The broad prominent keels and somewhat elongate siphonal channel are characteristical for the species.

Remarks: This species is endemic of the area of investigation. For the first time, a type is illustrated in order to facilitate later studies on the genus *Proneptunea*. According to WoRMS, this species is accepted as *Tholozoplanes amabilis* (Dall, 1912).

Proneptunea fenestrata Powell, 1951 * •

Type material: Pl. 55 Fig. 6 illustrates the holotype for the first time. It is stored in the NZMOE (96,531). It measures 12 mm and was collected during the Discovery expeditions 1926-1937 at Stn 14, on the 2nd of December 1926.

Type locality: E Cumberland Bay, South Georgia 204 yards from shore, under Mt Duse, 7-27 m

Distribution: Only known from South Georgia.

Diagnosis: With its prominent keels, this species resembles *P. amabilis*; it can be separated by its shorter siphonal channel.

Remarks: *P. fenestrata* lives out of the area of investigation and is illustrated here in order to facilitate later comparative studies. When describing this species, Powell presented only a drawing.

Proneptunea rossiana Dall, 1890 *

Type material: Pl. 55 Fig. 7a shows the holotype, measuring 7.5 mm and is stored in the NZOE (M. 5491) together with four paratypes (R. 753). Three paratypes are in the TPT (M. 25603), and one in the USNM (896-33).

Type locality: Ross Sea, 73°20'S 174°00'E, 376 m (NZOE Stn A464).

Additional material studied: Pl. 55 Fig. 7b shows a shell of 6 mm from the Ross Sea, 303 m (ex coll. K. Finnerty).

Distribution: Ross Sea.

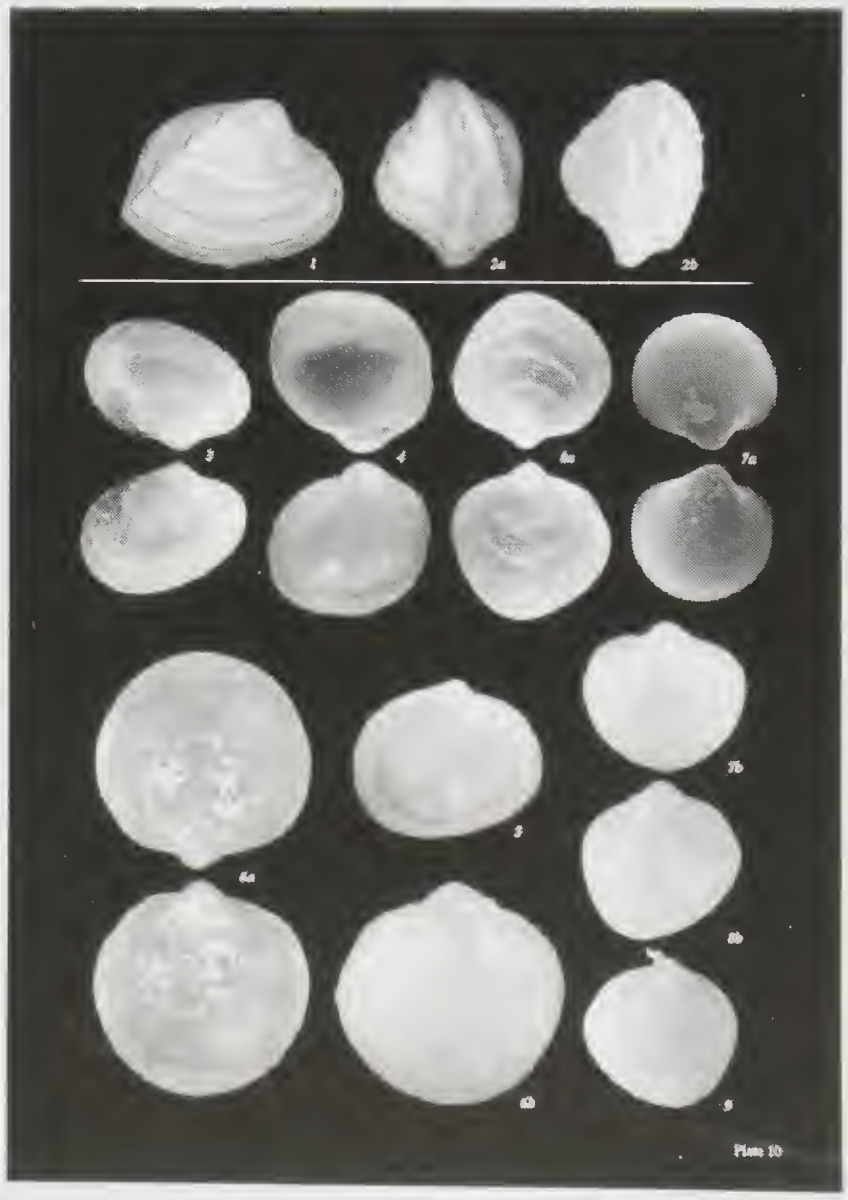
Diagnosis: An unmistakable species with its very wide shell.

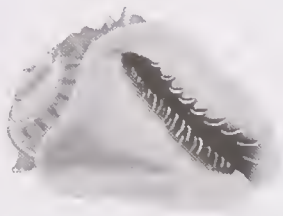
Proneptunea rufa Ockelmann & Powell, 1984 *

Type material: The holotype is stored in the NMW (Z.1979.010.0401) and measures 12.35 mm. Pl. 55 Fig. 8 shows one of the paratypes (10 mm (NMW Z.1979.010.0403). There are three further paratypes in the NMW (Z. 1979.010.0388, 389 and 421). One paratype is located in the AMS (C.148255). The type material was collected by G. R. Powell in 1978-1979.

Type locality: Borge Bay, Signy Island, South Orkney Islands, 5-13 m.

Additional material studied: There are a few specimens and shells from King George Island, South Shetland Islands, collected during the 26th (1981-1982) and 30th (1982-1986) Soviet Antarctic





Nous avons reçu

Etienne MEULEMAN

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(Belgique)
N°269, janvier-février 2013

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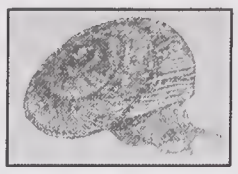

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(Espagne)
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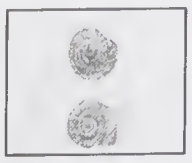

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A cura di P. CROVATO

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13 Incontri d'autore. Centro Caprense Ignazio Cerio (Capri 29 settembre 2012)

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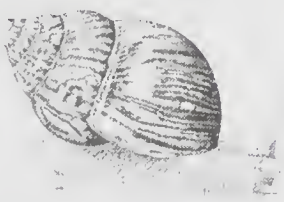

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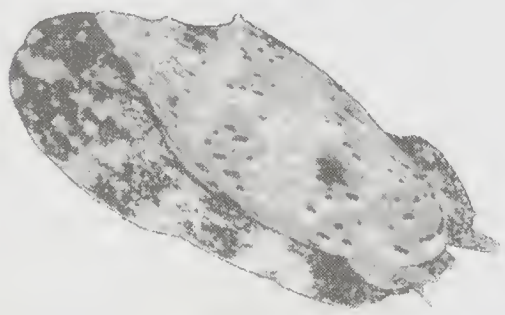

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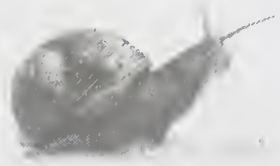

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Christiane DELONGUEVILLE et Roland SCAILLET

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	Vendredi 23	108 - 105
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	Samedi 21	104 - 101

Octobre	-	-

Novembre	Lundi 4	(99) - 101
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Annuaire des Marées pour l'année 2013 - Ports de France - Métropole - Tome 1 - SHOM (Service Hydrographique et Océanographique de la Marine) - *Paris - 257 p.*

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SOCIETE BELGE DE MALACOLOGIE

New species of *Assiminea* (Gastropoda, Rissooidea) from the tropical and subtropical East Atlantic

Emilio ROLÁN
Museo de Historia Natural of the University,
Campus Norte, Parque Vista Alegre,
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Keywords. Gastropoda, Rissooidea, *Assiminea*, West Africa, new species.

Abstract. The species of the genus *Assiminea* from the occidental African coast are studied, and comparisons with those previously known are presented. In the absence of definitive proof, it is assumed that *Assiminea hessei* O. Boettger, 1887 is applicable to the Angolan populations. Five new species are described.

Resumen. Se estudian las especies del género *Assiminea* de la costa africana occidental, comparándolas con las previamente conocidas. Ante la carencia de pruebas seguras se supone que la especie previamente conocida como *Assiminea hessei* O. Boettger, 1887 puede corresponderse con las poblaciones encontradas en Angola. Se describen cinco especies nuevas.

INTRODUCTION

The genus *Assiminea* H. & A. Adams, 1865 is cosmopolitan. The European species were studied by Paladilhe (1875, 1877). A revision of the genus was made by Boettger (1887) presenting and giving the description of 72 species, most of them from Indo-Pacific (Asia and Oceania), but also some from European and Macaronesian waters, and one from West Africa. Fukuda & Mitoki (1995, 1996a, 1996b) revised the species in the Yamaguchi Museum, separating them into several genera.

Recently, the species occurring in northern Europe, the Atlantic archipelagos and Mediterranean were studied by Aartsen (2008), who commented on the older taxa and described four new species.

The East Atlantic taxa in the latter work are:

1- *Assiminea grayana* Fleming, 1828, which is a species distributed between Arcachon, France and Denmark, including The Netherlands and Great Britain (Fretter & Graham, 1978).

2- *Assiminea eliae* Paladilhe, 1875. Aartsen (2008) mentioned the distribution area as La Rochelle and Bayonne (France) and the Gulf of Gascogne, Spain. It is also mentioned from Coimbra (Portugal), which is not possible, since this locality is far from the sea; this is probably a case of confusion with a fresh water species of *Pseudamnicola* or *Mercuria*. Its taxonomic status is dubious.

3- *Assiminea ostiorum* (Bavay, 1920), from the Bassin of Arcachon, lectotype and paralectotypes in MNHN (designated by Aartsen, 2008). The species is doubtful, because the type material is eroded; the species has not been collected recently.

4- *Assiminea recta* Mousson, 1874 and *Assiminea adriatica* Clessin, 1878 are treated by Aartsen (2008), and they are not actually recognized species.

The new species described by Aartsen (2008) are:

5- *Assiminea gittenbergeri* Aartsen, 2008. Types in RMNH; type locality: Sfax, Tunisia. Other shells collected in Italy.

6- *Assiminea avilai* Aartsen, 2008. Types in RMNH; type locality: Terceira Island, the Azores Archipelago.

7- *Assiminea rolani* Aartsen, 2008. Types in RMNH and paratypes in SE and MHNS; type locality: Funchal, Madeira Island. Rolán & Templado (2000) represented this species from Madeira as *Assiminea* cf. *grayana*.

8- *Assiminea glaubrechti* Aartsen, 2008. Holotype in ZMB and paratypes in RMNH and in MHNS; type locality: Bayonne, France; also collected in Vegadeo, northern Spain.

A drawing of the animal of an *Assiminea* species was figured in Graham (1971: figs. 36B) but shows only a small portion of the soft parts and the shell (fig. 56). Probably it is the same species figured in Rolán (1987: 241, fig. 2).

In some lists from west African faunas, *Assiminea* species were mentioned: *Assiminea* sp. in Fernandes & Rolán (1993: 34) for São Tomé and Príncipe and Angola (Rolán & Ryall, 1999: 27).

Since Aartsen (2008) focused on Europe and the Macaronesian islands, it was necessary to complete the study of this group in the remainder of the eastern Atlantic, mainly the West African coast. The work of Boettger (1887) was a worldwide revision, but only one African species was mentioned: *Assiminea hessei* O. Boettger, 1887. Its type locality is West Zaire, behind the English trade house at Banana. The species is figured in the original description and recorded from Nigeria by Brown, who illustrated the radula (Brown, 1980: fig. 44).

Abbreviations

MHNS: Museo de Historia Natural, Santiago de Compostela.
MNHN: Muséum National d'Histoire Naturelle, Paris.
MNCN: Museo Nacional de Ciencias Naturales, Madrid.
RMNH: National Museum of Natural History Naturalis, Leiden.
SMF: Senckenberg Natur-Museum, Frankfurt.
ZMB: Museum für Naturkunde der Humboldt Universität zu Berlin, zoologisches Museum.

sp: specimen with soft parts.
s: empty shell.
f: fragment.
j: juveniles.

SYSTEMATICS

Genus *Assiminea* Fleming, 1828

Type species by original monotypy: *Assiminea grayana* Fleming, 1828, Recent, SE England.

Remarks. The purpose of this work is to present the species collected by the author during trips to the West African coast over several years. They all will be included in the single genus *Assiminea* based on these characters of the type material:

Assiminea Leach *in* Fleming, 1828
Type species: *Assiminea grayana* Fleming, 1828.
Size height: 4-5 mm.
Form: conical with high spire.
Whorls: 5-7.
Profile of the whorls: almost flat.
Umbilicus: none.
Protoconch: 1 ¾ whorls.
Radula: rachidian tooth exhibits basal denticles.

Paludinella Pfeiffer, 1841
Type species: *Paludinella littorina* (delle Chiaje, 1828).
Size height: 2 mm.
Form: almost spherical, short spire.
Whorls: 3.
Profile of the whorls: convex.
Umbilicus: yes.
Protoconch: ½ whorl.
Radula: rachidian tooth lacks basal denticles.

Thiele (1935) stated that the rachidian tooth of the genus *Assiminea* has "...in most cases with 3 posterior cusps", which means that it is not always so. Brown (1980) explained that the species of the genus *Assiminea* can have basal denticles in the rachidian tooth of the radula or not.
Regardless of this opinion, in the present situation, placement of any new species in one or other genus must be based on conchological characters before resorting to those of the radula, on which there is not enough information, especially none that encompasses all the species. There is absolutely no unequivocal proof that a character (such as the basal denticles of the rachidian tooth of the radula) is more important than any other to establish generic placement. In this situation we have decided to include all the species here described in the genus *Assiminea* because they are quite similar in shell morphology. Other species from this area, tentatively included in the genus *Paludinella*, will be described in a forthcoming paper.

Assiminea cf ***hessei*** O. Boettger, 1887
Figures 1A-E

Assiminea hessei O. Boettger, 1887: 180, tab. 6, fig. 7. [Type locality: mouth of Congo River, West Zaire, swamp behind the English trade house at Banana].

Type material. The type material is in SMF (pers. comm. Dr. Ronald Janssen).

Other material examined. 1 s, 3 j (Fig. 1A) in MNCN (15.05/60068) (j with good protoconch); MNHN (IM-2012-39, 11 sp in alcohol); MHNS (100587, 16 sp in alcohol); 4 sp from the Namibe broken for radular study; 25 sp and j, from Namibe, Angola (MHNS); 16 sp, 3 j, from Luanda, Angola (MHNS).

Description. Shell (Figs. 1A-B) small, solid, globose with somewhat pointed spire.
Protoconch (Figs. 1C-E) with about 1 ¾ whorls and a diameter of about 340 µm; divided into two very well differentiated parts: the first embryonic one has a nucleus 65-70 µm in diameter, extending for ½ whorl at least; this part has a microsculpture with very minute rounded pits. The second part has about 12-14 poorly marked spiral lines; the end of the protoconch is clearly separated from the teleoconch by a small smooth depression and a previous thickening. The teleoconch usually has 4 whorls, nearly 5 in some populations; it is smooth with only slightly prosocline growth lines, slightly convex at the periphery. The suture is distinct, slowly descending. Aperture ovoid, with a narrow external border; the columella is a little wide, having an expansion which occludes the umbilical

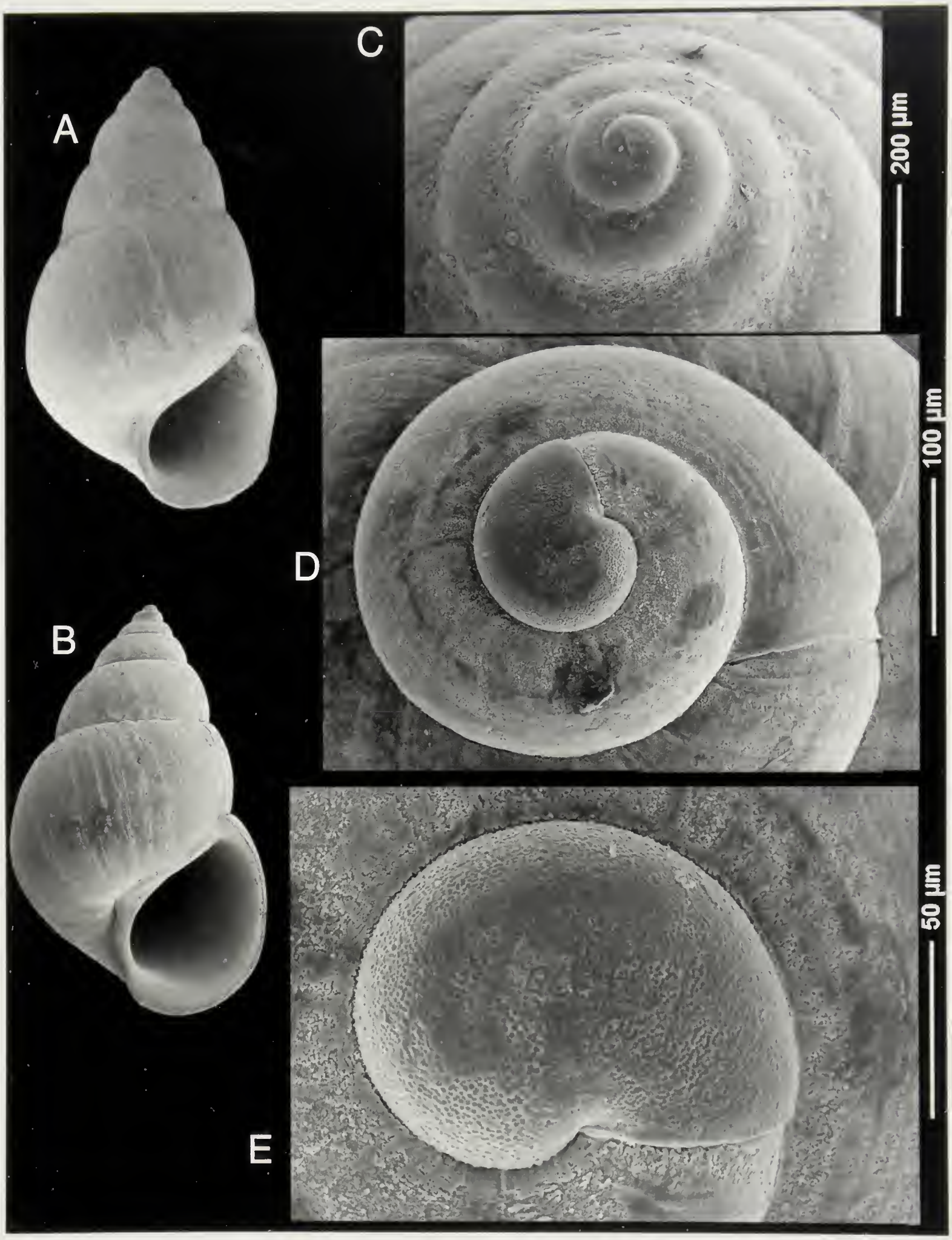

Figure 1. *Assiminea* cf *hessei* O. Boettger, 1887. **A.** Shell, 4.0 mm, Namibe, Angola (MNCN); **B.** Shell, 3.4 mm, Luanda, Angola; **C-E.** Protoconch and detail of the micro sculpture.

area. Umbilicus imperforate or reduced to a narrow fissure.
Animal (from field notes; Fig. 8A from preserved animals): The soft parts visible through the shell are apparently totally black; the mantle is totally grey-black with only in the anterior light border; the head is black and white, with moderately long white retractable tentacles, extending to the eyes. The black colour around the tentacles extends to the mouth; below the tentacles there is a small black area. The foot is white, its anterior part is rounded and bilobulated; a large penis is bent back behind the head. Operculum ovoid, almost transparent, with a subcentral nucleus.
Dimensions: The holotype is 4.0 mm high. Most shells are little smaller.
Radula (Fig. 9D): Rachidian tooth elongate, without any basal denticle and on the cutting edge there are 5-7 cusps, the central one being larger and wider and the others towards the periphery smaller. The lateral tooth is rather similar to the central, and the marginal ones have many smaller cusps: about 10-12 on the outer one and 5-6 only on the innermost, but wider, tooth.

Habitat. "Mangrove swamp in Nigeria, with *Melampus* on a sandy substratum near the upper tidal limit" (Brown, 1980). The specimens collected in Angola were found under rocks and plants at the limit of the low tide, in an area with brackish water.

Distribution. The range of this species is not really known. Isolated reports from fresh waters are not plausible since *Assiminea* species are exclusively marine. The record of Cameroon (Bandel & Kowalke, 1999) is not secure since comparison to the original population with respect to protoconch, radula or DNA was not made. The same applies to the material collected in Port Harcourt (Nigeria) mentioned in Brown (1980). If the populations included in this work are the true *A. hessei*, the distribution of the species would be in Zaire and Angola (Luanda and Namibe).

Remarks. The species was described from the type locality, and there are only the dubious records already mentioned. So, actually we have the populations from the original description and two more in the present work. The type material is corroded at their apices (pers. comm. Ronald Janssen, SMF):

1- The population from Banana, West Zaire, on which the description is based has possibly been extirpated because the area is polluted, and the species has not been collected since 1890 (http://www.iucnredlist.org/details/175138/0)
At present only known from the type material in SMF.

2- The population from Luanda, Angola, apparently rather similar to the following one, with a similar protoconch and radula. It is about 300 kms southern from the type locality of *Assiminea hessei*.
3- The population from Namibe (old Moçamedes) Angola, which agrees with the description and photographs in the present paper. It was collected more than 1200 Kms south of the type locality for *Assiminea hessei*.

The problem with the comparison of the Angolan populations and the type series is that the shells of the species of this genus are very similar; the protoconch in the type material is not in good condition; and there is no information on the soft parts. The radula is mentioned by Brown (1994) as being similar to that of *Assiminea bifasciata* Nevill, 1880 from Durban. The drawing of this radula differs from that of the Angolan population in several details, but it is difficult to accept these differences as evidence for specific separation.
So, lacking other possibilities for comparison, we have provisionally included the three populations in this existing taxon while waiting for topotypical material to study.
All the species of this genus are very similar conchologically. We have alluded to this problem in the comparison above with *A. ostiorum* and *A. eliae* since these two species are very dubious, and most of the characters, protoconch, and radula are not known, not to mention their geographic remoteness. *Assiminea* cf *hessei* may be distinguished from other species:
Assiminea grayana Fleming, 1828 (after Fretter & Graham, 1978) is larger, up to 5 mm (even 7.5 mm after Adam, 1960), with 6-7 whorls, with some indefinite spiral lines on the older whorls, a protoconch with two whorls. The animal head is totally black except the extreme of the tentacles where the eyes are. The radula (after Aartsen, 2008) has 3 basal tubercles at each side of the central tooth, but we have found 4 and 5 (Figs. 9A-B).
Assiminea gittenbergeri Aartsen, 2008 has a protoconch of only one smooth whorl and only 250 µm in diameter. The same can be said for *A. rolani* Aartsen, 2008, with only one smooth protoconch whorl (Rolán & Templado, 2000) and basal cusps in the rachidian tooth.
Assiminea glaubrechti Aartsen, 2008 has a similar protoconch but with a larger diameter (about 430 µm) and spiral sculpture.
Assiminea avilai Aartsen, 2008 has a shorter protoconch of only one whorl (see Aartsen, 2008, fig. 11) and 240 µm in diameter, and the radula has a rachidian tooth with three basal denticles on each side.
Assiminea rolani Aartsen, 2008 has a wider protoconch of only one whorl, a spiral groove below the suture and the rachidian tooth has three basal denticles.
For a comparison with other species see below.

Assiminea principensis spec. nov.
Figs. 2A-F

Material. Holotype (Fig. 2A) in MNCN (15.05/60069H) and 14 paratypes in MNCN (15.05/60069P, 3 sp, 11 j, Figs. 2B-C). Other paratypes: MHNS (100588, 60 sp, about 70 j); MNHN (IM-2012-40, 15 sp).

Type locality. Santo Antonio, Príncipe Island: on green algae on and under rocks in the small river in the town near the sea.

Etymology. The species is named after Príncipe Island, the type locality.

Description. Shell (Figs. 2A-C) small, solid, globose, whitish or cream in colour, with spire slightly pointed. Protoconch (Figs. 2D-F), almost always eroded, formed by two very well differentiated parts: the embryonic one with about one whorl, beginning by a nucleus with about 80 µm with a microsculpture formed by minute rounded pits; the larval part occupies roughly another whorl with about 8 spiral threads. In total, the protoconch has a little more than 2 whorls (2 1/8) and a diameter of 360-400 µm. The teleoconch usually has about 4 whorls; its surface is smooth, with slightly prosocline growth lines only, and frequently with eroded areas; it is slightly convex at the periphery. The suture is distinct, slowly descending. Aperture ovoid, with a narrow external border; the columella is a little wider, opisthocline, occluding the umbilical area. Umbilicus not existent or reduced to a narrow fissure.
Dimensions: The holotype is 3 mm high; most of the shells are slightly smaller.
Animal: Black, but not examined directly before fixation. The head is gray with a darker line which extends behind the tentacles and between them. The rectum forms an oblique loop.
Radula (Figs. 9E-F): Typical of the genus, but the rachidian tooth lacks a basal tubercle, having 7 cusps on the cutting edge. The inner marginal tooth has only 6-7 wide cusps, and the outer marginal one has more numerous and smaller cusps (about 14-16).

Remarks. The differences from other congeneric species are:
Assiminea grayana Fleming, 1828 (after Fretter & Graham, 1978) is larger, up to 5 mm, with 6-7 whorls, a protoconch with two whorls. Furthermore the radula has a rachidian tooth with basal denticles on each side, and has a subsutural spiral thread.
Assiminea gittenbergeri Aartsen, 2008 has a protoconch with only one smooth whorl and basal denticles on the rachidian tooth.
Assiminea glaubrechti Aartsen, 2008 has a protoconch with 1 ½ whorls and a diameter of 430 µm.
Assiminea rolani Aartsen, 2008 has a protoconch with only one smooth whorl and the radular rachidian tooth with 3-4 basal denticles at each side (Rolán & Templado, 2000).
Assiminea avilai Aartsen, 2008 has a shorter smooth protoconch with a diameter of 240 µm, and the radula has three basal denticles on each side of the rachidian tooth.
Assiminea cf *hessei* has a rather similar shell, but is a little larger, the protoconch is 3/8 of whorl shorter, and it has a well-defined embryonic shell with more fine grooves on the larval part. The animal is darker without a light line between tentacles.

Assiminea saotomensis spec. nov.
Figs. 3A-J

Type material. Holotype (Fig. 3A) in MNCN (15.05/60070H) and 5 paratypes in MNCN (15.05/60070P). Paratypes: MNHN (IM-2012-8000, 10 sps), MHNS (100589, 30 sps).

Type locality. São Tomé Island, Agua Izé, at the limit of the low tide, on wood, plants, and rocks (7/02/1990).

Etymology. Named after São Tomé Island, the type locality.

Other material studied. São Tomé: 7 sp, from type locality (MHNS); 13 j, from Praia Sant'Ana (MHNS).

Description. Shell (Figs. 3A-E) ovoid-conical, robust, globose, spire slightly pointed, whitish or cream in colour. Protoconch (Figs. 3F-H) usually eroded, with 1 ¾ whorls, a nucleus of about 75 µm, and a diameter of about 320 µm. In some juveniles spiral lines could be observed. The teleoconch usually distinct at the beginning with about 5 whorls, which are smooth, convex, with prosocline growth lines which extend into the umbilical depression. Suture not deep. Aperture ovoid, a little pyriform, external border sharp, columella slightly curved, almost vertical and thickened, completely occluding the umbilicus. Under high magnification (Fig. 3I) a fine microsculpture can be seen; with even larger magnification (Fig. 3J) the surface is rough.
Dimensions: The holotype is 3.8 mm high.
Animal: With short and rounded tentacles, totally white, the black eyes almost on their extremities. The dorsum of the head is dark coloured except the tentacles and near the border of the snout; the colour extends to near the base of the tentacles and behind them, the middle of the head at the level of the tentacles being white. This colouration is rather uniform (Fig. 8D).
Radula (Figs. 10C-D): The radula has a rachidian tooth with only 5 cusps, the central one larger and wider; no basal denticles; the lateral has 5-7 very pointed cusps; the inner marginal has 5-6 cusps and the outer marginal has 17-19 very small cusps.

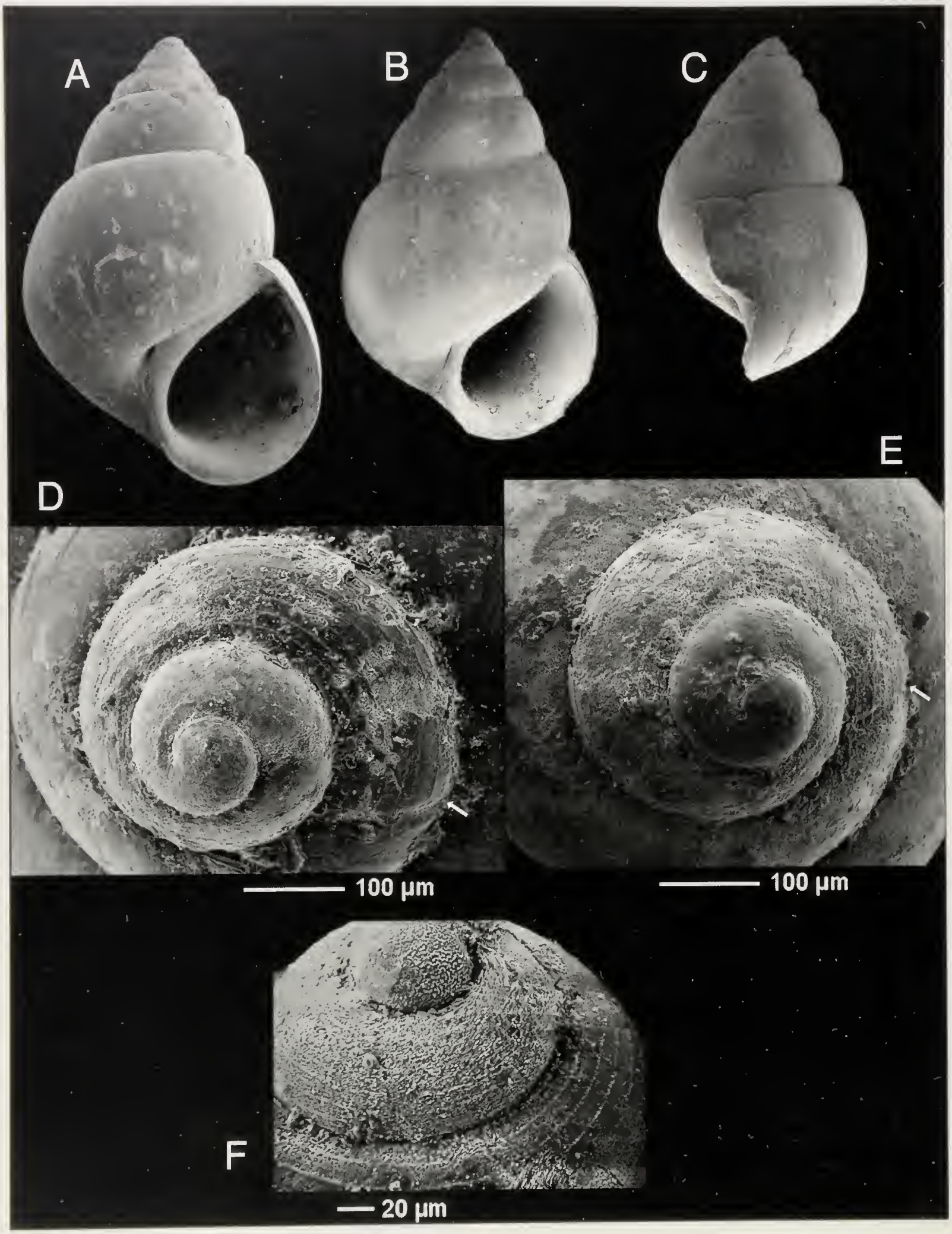

Figure 2. *Assiminea principensis* spec. nov. **A.** Holotype, 3.0 mm, (MNCN), Santo Antonio, Príncipe. **B-C.** Paratypes, 2.7, 2.3 mm (MNCN); **E-F.** Protoconchs.

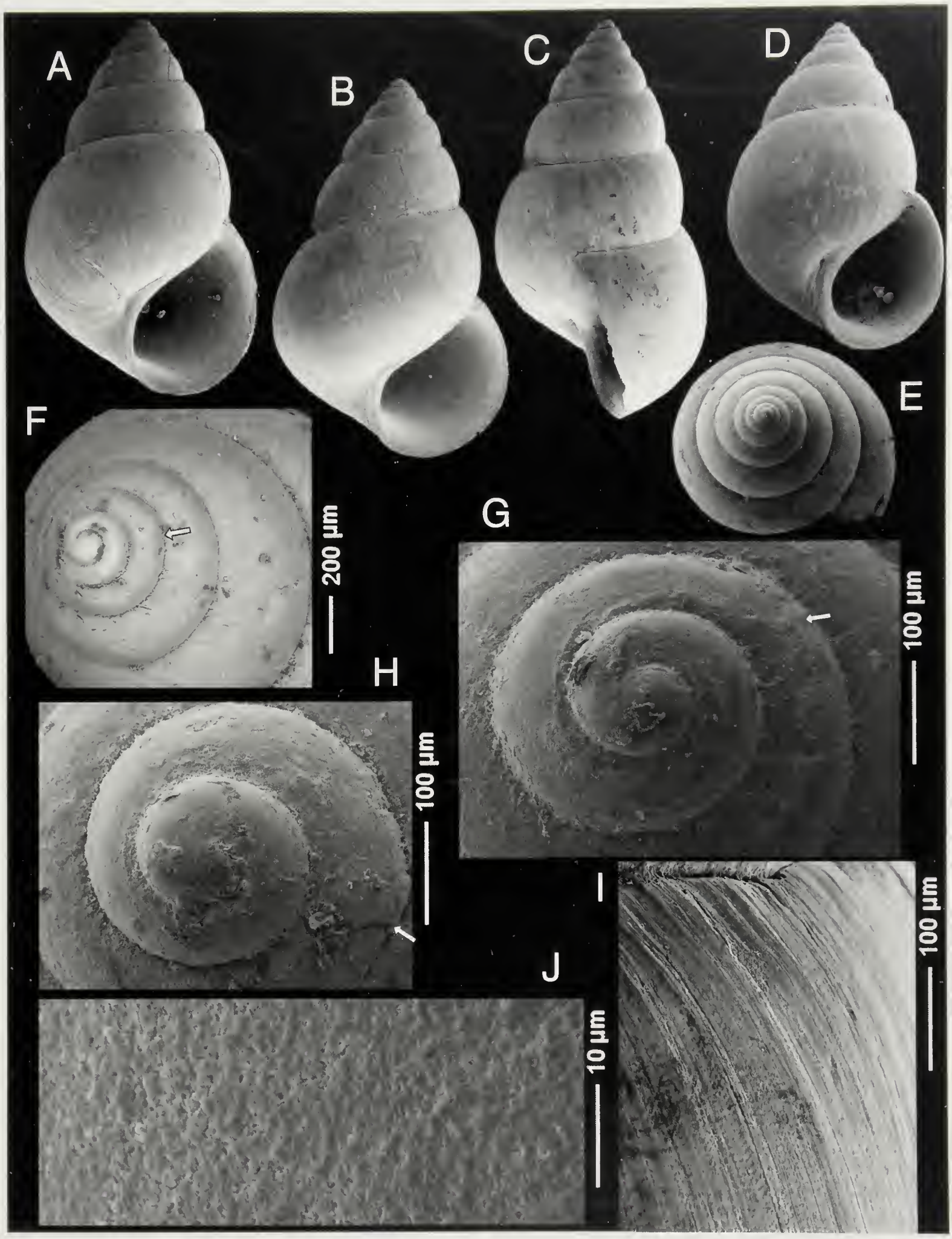

Figure 3. *Assiminea saotomensis* spec. nov. **A.** holotype, 3.8 mm (MNCN); **B-E.** Paratypes, 3.8, 3.6, 2.9, 3.1 mm (MNCN); **F-H.** Protoconchs (the beginning of the teleoconch is marked); **I-J.** Detail of the micro sculpture, Agua Izé, São Tomé.

Habitat. At the limit of the low tide, on wood, plants and rocks, and on mangrove roots (7/02/1990).

Remarks. The differences with other congeneric species are as follows:
Assiminea grayana Fleming, 1828 (after Fretter & Graham, 1978) is larger, up to 5 mm, with 6-7 whorls, a protoconch with two whorls. The radula has a rachidian tooth with basal denticles at both sides.
Based on the morphology of the radula, this new species can be separated from *Assiminea gittenbergeri* Aartsen, 2008, *A. avilai* Aartsen, 2008 and *A. rolani* Aartsen, 2008. Also the latter have a protoconch of only one whorl.
Assiminea glaubrechti Aartsen, 2008 has a smaller shell and shorter protoconch with a larger diameter.
Assiminea cf *hessei* has a rather similar shell, but the protoconch is more finely sculptured, the embryonic shell well delimited, and with fine microsculpture. In contrast the shell of *A. saotomensis* has microsculpture on the teleoconch, and its animal is darker without a white line between the tentacles.

Assiminea occulta spec. nov.
Figures 4A-E

Type material. Holotype (Fig. 4A) in MNCN (15.05/60071). Paratypes: MNHN (IM-2012-8001, 1 sp); MHNS (100590, 6sp).

Type locality. São Tomé Island, Agua Izé, in the same area as the previous species.

Other material examined. Ghana: about 130 sp and j, Pumpuni, on rocky walls near de sea (14/03/1993) (MHNS); + 165 sp and j, intertidal, Miamia (MHNS); 5 sp, Bobowasi Island, in front Axim (21/03/1993) (MHNS).

Etymology. The specific name alludes to the fact that these specimens of this species were found mixed with those of the previous species on São Tomé Island.

Description. Shell (Figs. 4A) ovoid-conical, robust, globose, spire slightly pointed, whitish or cream in colour. Protoconch (Figs. 4B-E) with about one whorl, a nucleus of about 110-120 µm, and a diameter of about 300 µm. The teleoconch usually distinguishable at its beginning, with about 4 whorls, which are smooth, convex, with prosocline growth lines which terminate in the umbilical depression. Suture not deep. A fillet is present just below the suture throughout. Aperture ovoid, a little pyriform, external border sharp, columella slightly curved, almost vertical below, opisthocline on its upper part and thickened, almost completely occluding the umbilicus.
Dimensions: The holotype is 2.18 mm high; other shells were of similar size. The population from Ghana has slightly smaller shells.
Animal: from São Tome, only observed in fixed samples: body mostly black, only the anterior part of the foot and a circle around the eyes and tentacles are white. Animal from Miamia, Ghana: Short and rounded tentacles, the eyes almost on their extremities. The entire animal is white and in the area between the eyes; by illumination a pink elongate color stripe can be seen. The external border of the tentacles has an constant short black part. A penis can be seen on the dorsum behind the eyes. The curved intestinal lumen containing fecal pellets can be observed by transillumination.
Operculum: transparent with a light yellow tone.
Radula (Figs. 10A-B): Central tooth with 7 cusps, the middle one the largest; at the base there are two groups of denticles laterally aligned with 3 or 4 cusps; the lateral tooth has 6-7 cusps, the middle one also the largest. The inner marginal with about seven cusps, the central ones larger, the outer ones smaller; the outer marginal ones are spoon shaped and the cutting edge has numerous (between 17-20) elongated and very fine cusps, except the outer ones, which are wider.

Habitat. Found in Agua Izé with *A. saotomensis* (see above) at low tide, in brackish water. In the area there were *Melampus* sp., *Truncatella* sp. and *Pedipes* sp.

Distribution. Known from Agua Izé in São Tomé and from several places in Ghana.

Remarks. We have considered the populations from São Tomé and those from Ghana conspecific due the similarity of the shell and protoconch, existence of a subsutural spiral thread, etc. However, we found some differences in the colouration of the soft parts and in the radula: The population of *A. occulta* spec. nov. from São Tomé has an almost totally black animal, while that from Ghana is practically white with a pink area in the middle of the head. The rachidian tooth of the former population had 3 basal cusps at each side while that from Ghana had 4; also the outer marginal tooth of the specimens from São Tomé had more than 25 cusps. Anyway, these characters were not examined in detail and in only a few specimens from both populations to be considered significant, so we consider them as simple intraspecific variations.
In São Tomé this species lives in the same habitat as the species described above (*A. saotomensis*); see below for their separation.
The most important difference with the other congeneric species is the spiral fillet on the upper part of the whorls, which most other African species lack. Furthermore, the protoconch is short, with only one whorl and a wide nucleus.
By its short protoconch and the spiral cordlet near the upper suture, this species can be separate from most of the European species except *A. grayana* and *A. rolani*, but these two species have a protoconch of about 350-400 µm in diameter, a nucleus of 130 µm, and the soft

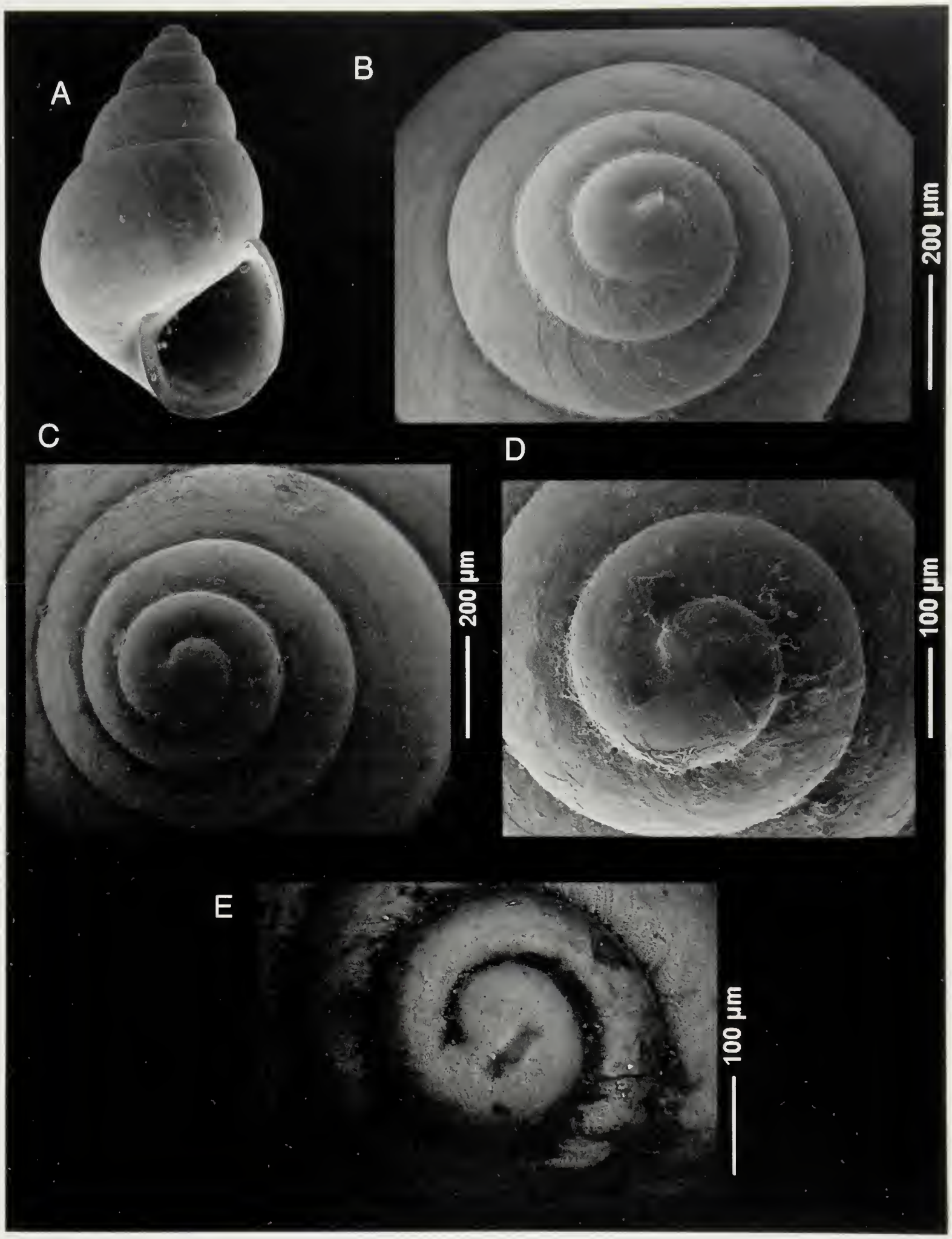

Figure 4. *Assiminea occulta* spec. nov. **A.** Shell, 2.2 mm, Agua Izé, São Tomé (MNCN); **B-E.** Apex, protoconch and details.

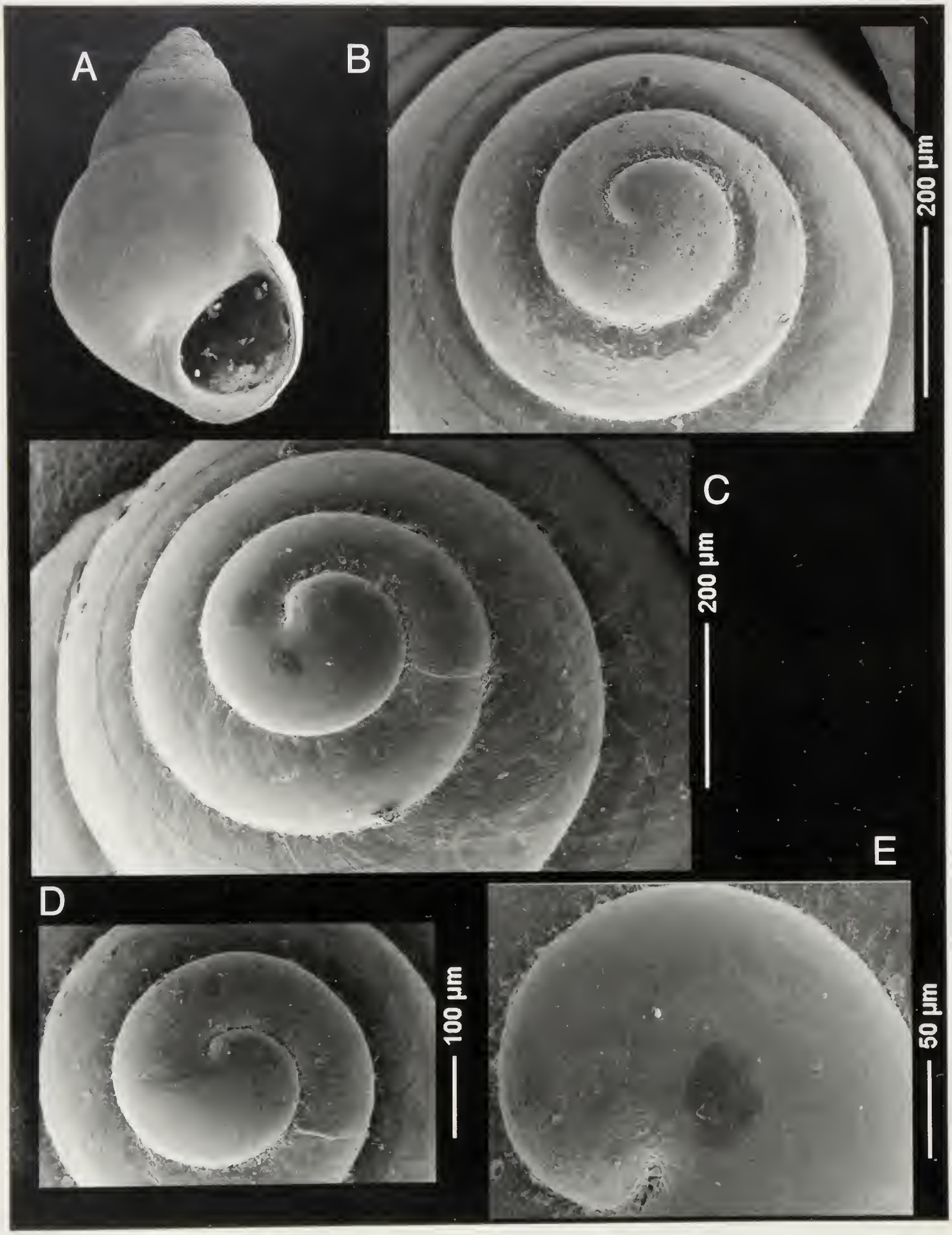

Figure 5. *Assiminea occulta* spec. nov. **A.** Holotype, 2.18 mm, Agua Izé, São Tomé (MNCN); **B-E.** Apex, protoconch and details.

parts are white with black between the tentacles and in the top of them.
In the other African species, the rachidian tooth lacks basal denticles.

Assiminea senegalensis spec. nov.
(Figs.6A-G)

Type material. Holotype (Fig. 6A) in MNCN (15.05/60072). Paratypes: MNHN (IM-2012-8002, 3 sp, 5 j, Fig. 6B); MHNS (100591, 74 sp, 43 j) all from type locality.

Type locality. Senegal, Ziguinchor region, in the town Ziguinchor, Casamance River, about 50 kms to the sea (12/11/2008).

Other material examined. Senegal: 7 sp, 5 j, Ossouye, Hotel Las Bolonas, intertidal near the manglar roots (14/11/2008) (MHNS); 3 sp, Enampour, intertidal (13/11/2008) (MHNS); 25 j, Ziguinchor, Casamance River (MHNS); 12 sp, Kaoland, delta of the Saloum (MHNS).

Etymology. The specific name refers to the country in which the species was collected.

Description. Shell (Figs. 6A-B) ovoid-conical, robust, globose, whitish or cream in colour, spire slightly pointed. Protoconch (Figs. 6D-G), with about two whorls, a nucleus of about 90 µm, an irregular rough surface on the nucleus, and 7-9 spiral threads on the subsequent whorls. Its diameter is 360-400 µm. The teleoconch is appreciable at its beginning because the spiral cordlets of the protoconch terminate at that point. It has about 4 smooth whorls, which are convex with prosocline growth lines terminating in the umbilical depression. Suture not deep. No spiral sculpture. Aperture ovoid, a little pyriform, external border sharp, columella slightly curved, opisthocline and scarcely thickened, occluding the umbilicus, which is only a small fissure.
Dimensions: The holotype is 3.0 mm high.
Animal: Short and rounded tentacles, eyes small, almost at their ends. All the animal is black except the border of the tentacles and the anterior part of the snout, which are white.
Radula (Figs. 10A-B): The rachidian tooth lacks basal denticles; its cutting edge presents 7 cusps, the central one larger; the lateral also has 7 cusps; the inner marginal one has 8-9 and the outer marginal 17-20.
Operculum: Transparent with a light yellow tone.

Habitat. Under rocks in the upper limit of the high tide, in areas of brackish water.

Distribution. Only known from the Senegal area.

Remarks. Comparison with the European and Macaronesian species is not necessary because all but one of them have denticles on the base of the rachidian tooth of the radula and most of them only one protoconch whorl. So, only *Assiminea glaubrechti* Aartsen, 2008 has a similar radula, but it has a smaller shell and a shorter protoconch (with only 1 ½ whorls) of greater diameter.
Among the African species, none of them has 2 protoconch whorls; the most similar is *A. saotomensis*, which has a protoconch of 1 ¾ whorls, with a smaller diameter and a different micro-sculpture of the shell. The animal lacks the white colour between the eyes.
Assiminea cf *hessei* has 1 ¾ protoconch whorls with an evident and rougher embryonic shell, a smaller nucleus, smaller diameter of the protoconch, and sculpture with grooves instead of cordlets. The outer marginal teeth have fewer cusps.

Assiminea moroccoensis spec. nov.
Figure 7A-F

Type material. Holotype (Fig. 7A) in MNCN (15.05/60073); Paratypes in the following: MNHN (IM-2012-8003, 7 sp), MHNS (100592, 16 sp, 2 j).

Type locality. Morocco: Oualidia, under the rocks on the high tidal limit (20/09/1991).

Etymology. The specific name refers to the country in which the species was collected.

Description. Shell (Figs. 7A-C) ovoid-conical, robust, globose, whitish or cream in colour, spire slightly pointed. Protoconch (Figs. 7D-E), with 1 ½ whorls, a nucleus of about 100 µm with a rough surface and a diameter of about 350 µm. Small spiral threads seem to be present but are usually eroded. The teleoconch frequently shows erosions. It has 3 slightly convex whorls; the suture is distinct but not deep and there is no other sculpture other than the strongly prosocline growth lines. Aperture ovoid, a little pyriform, external border sharp, columella slightly curved, prosocline below and opisthocline above, scarcely thickened, occluding the umbilicus, which is only a small fissure.
Dimensions: Holotype 3.0 mm high. Other paratypes are smaller.
Animal: Totally white with a small reddish patch between the eyes, which are large.
Operculum transparent.
Radula (Figs. 11C-D): It has an elongate rachidian tooth with about 12 rounded denticles on its cutting edge. No basal denticles. The lateral teeth are narrow and elongate also with small denticles in the border (8-10 in number); the marginal ones, are very different, the internal one narrow with about 6-8 denticles and the outer, wider, with up to 23 small denticles.

Remarks. It is the only species with 1 ½ protoconch whorls except A. *glaubrechti*, but the latter has a wider

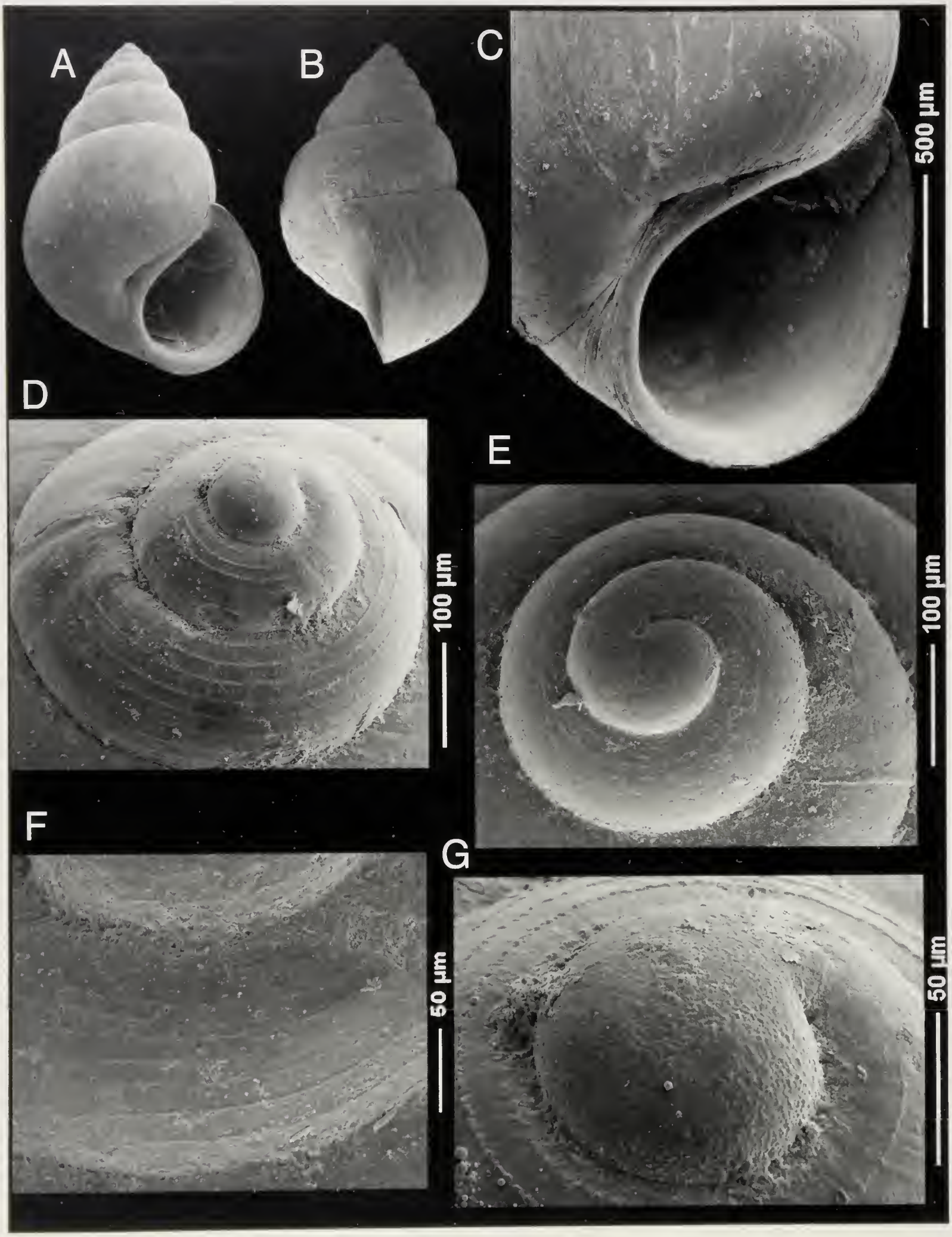

Figure 6. *Assiminea senegalensis* spec. nov. **A.** Holotype, 3.0 mm, Ziguinchor, Senegal (MNCN); **B.** Paratype, 2.8 mm; **C.** Detail of the aperture; **D-G.** Protoconchs and details.

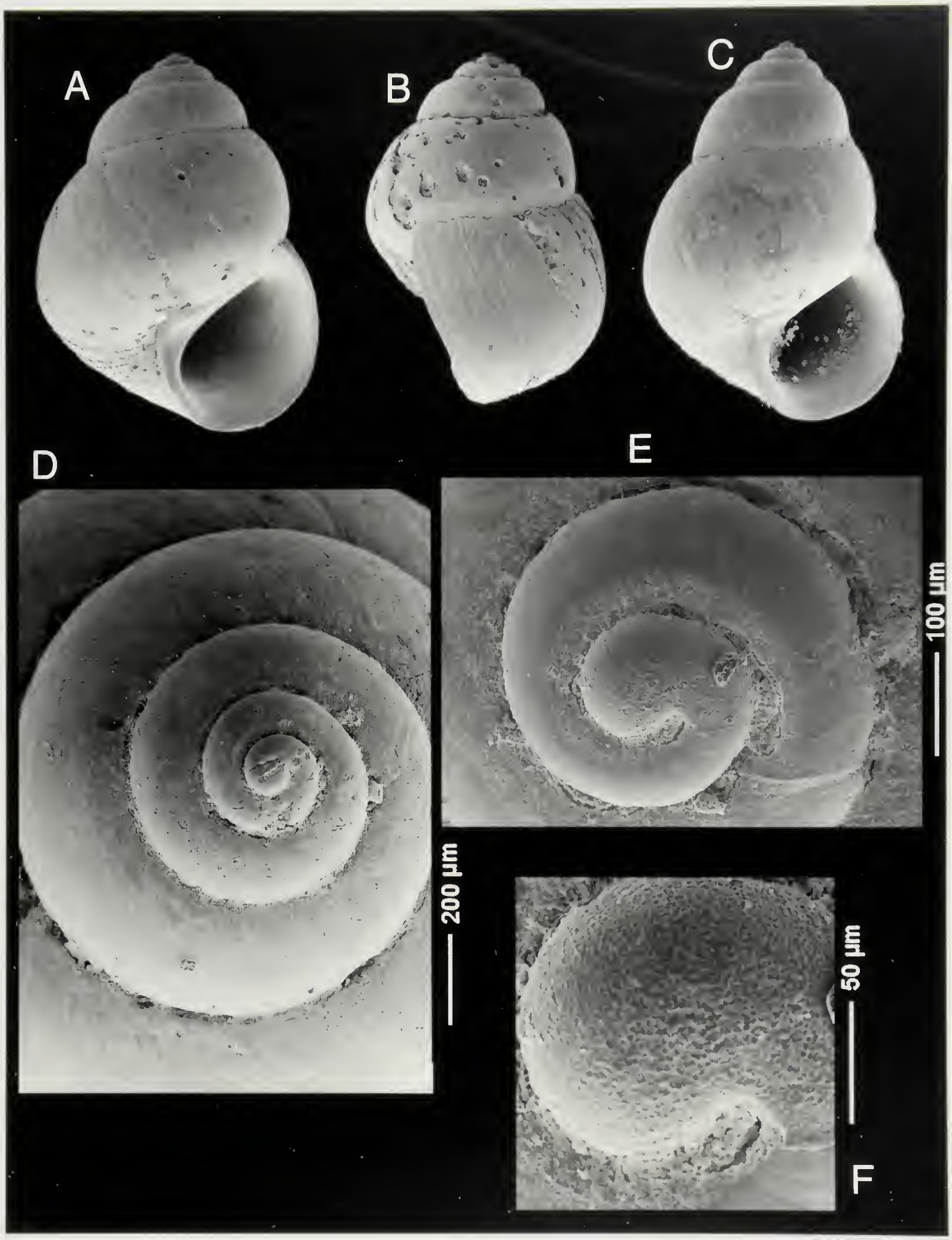

Figure 7. *Assiminea moroccoensis* spec. nov. **A.** Holotype, 3.0 mm (MNCN); **B-C.** Paratypes, 2.7, 2.9 mm (MHNS and MNHN respectively); **D-F.** Apical view, protoconch and detail, Oualidia, Morocco.

protoconch and the radula has a rachidean tooth with a short number of denticles on the cutting edge and in the outer margin. Because of its small size it could be considered as a *Paludinella* species, but in any case different from *Paludinella littorina* (delle Chiaje, 1828) or *P. sicana* (Brugnone, 1876) whose protoconchs, which were shown in Aartsen (2008: figs. 22 and 24), are different.
The closest ones are the African species, but the radula is very different from all them, having a cutting edge with small number of denticles which are not very uniform.

CONCLUSION

The genus *Assiminea* appears to include numerous species, but it has been poorly studied up to now. It is very likely that more species are waiting to be studied and named.
All these species have been included in one genus, but two groups were mentioned by Fukuda & Ponder (2003: 2017), those with basal denticles in the rachidian tooth and those which lack them:

Group 1. (most of the European and Macaronesian): *Assiminea grayana, A. gittenbergeri, A. avilai* and *A. rolani*; among the African species only *A. occulta*.

Group 2. *A. glaubrechti* (the only European); West African: *Assiminea* cf *hessei, A. principensis, A. saotomensis, A. senegalensis* and *A. moroccoensis*.

The protoconch whorls are variable:
1. With only one: three in European and Macaronesian: *Assiminea gittenbergeri, A. avilai, A rolani*; and only one in the African ones: *A. occulta*.
2. Between 1 and 2: curiously most of the species are of the group 2 [above]: *Assiminea glaubrechti* (1 ½); *A. moroccoensis* (1 ½); *A.* cf *hessei* (1 ¾); *A. saotomensis* (1 ¾).
3. Two or more whorls: *Assiminea grayana* (2); *A. senegalensis* (2); *A. principensis* (2 1/8).

The shell usually has a teleoconch without spiral sculpture, but in three cases a subsutural cordlet exists: *A. grayana, A. rolani, A. moroccoensis*.
To arrive at further conclusion, a wide revision studying some populations which are not well known actually would be necessary.

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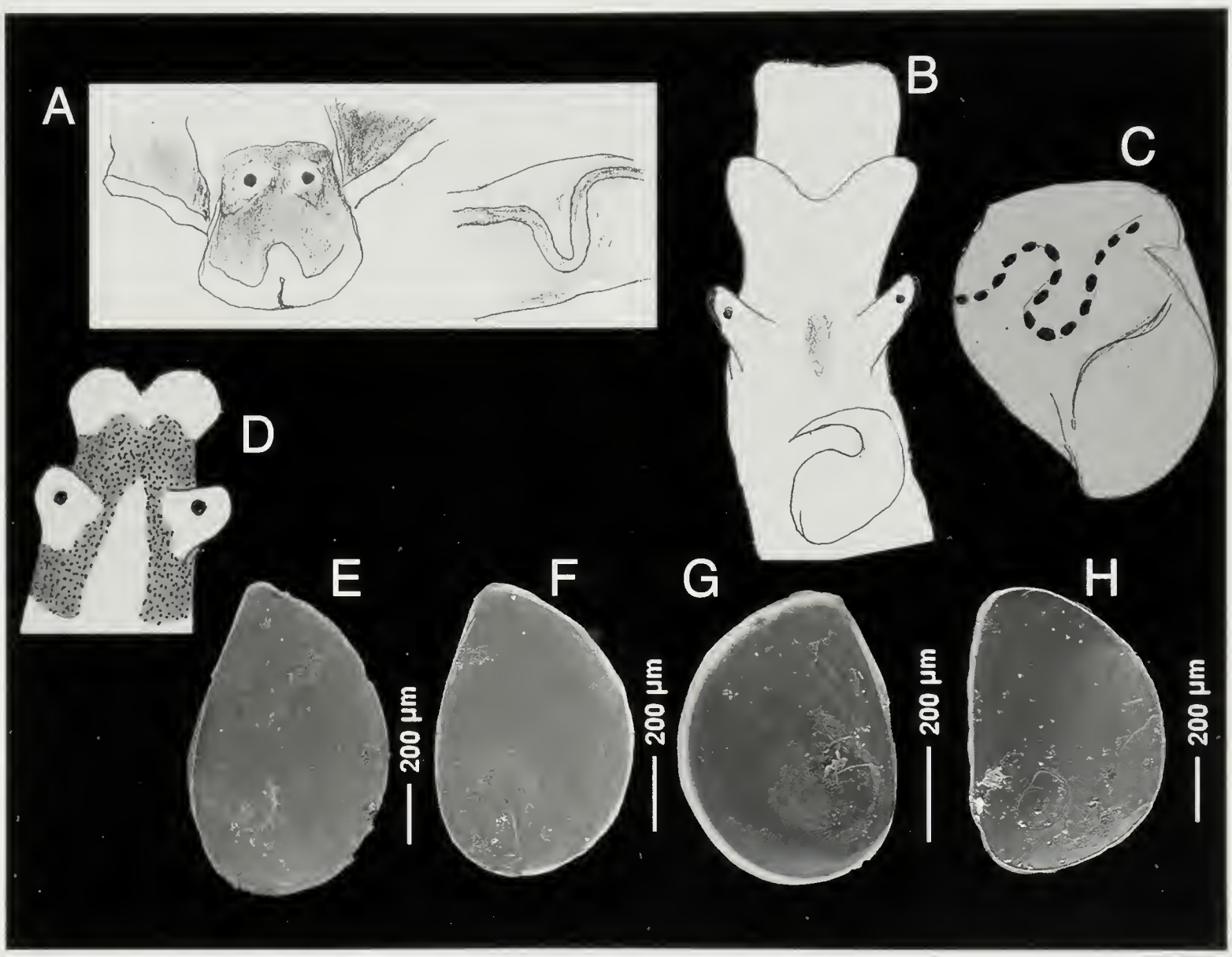

Figure 8. Drawing of the soft parts. **A.** *Assiminea* cf *hessei* O. Boettger, 1887, Corimbo, Angola, from preserved animals; **B-C.** *Assiminea occulta* spec. nov., Miamia, Ghana, from notes of the land-book; **D.** *Assiminea saotomensis* spec. nov. from field notes, Agua Izé, São Tome. **E-H.** Operculum. **E.** *Assiminea saotomensis*; **F.** *Assiminea occulta*, both São Tomé; **G.** *Assiminea* occulta, Ghana; **H.** *Assiminea moroccoensis*, Oualidia, Morocco.

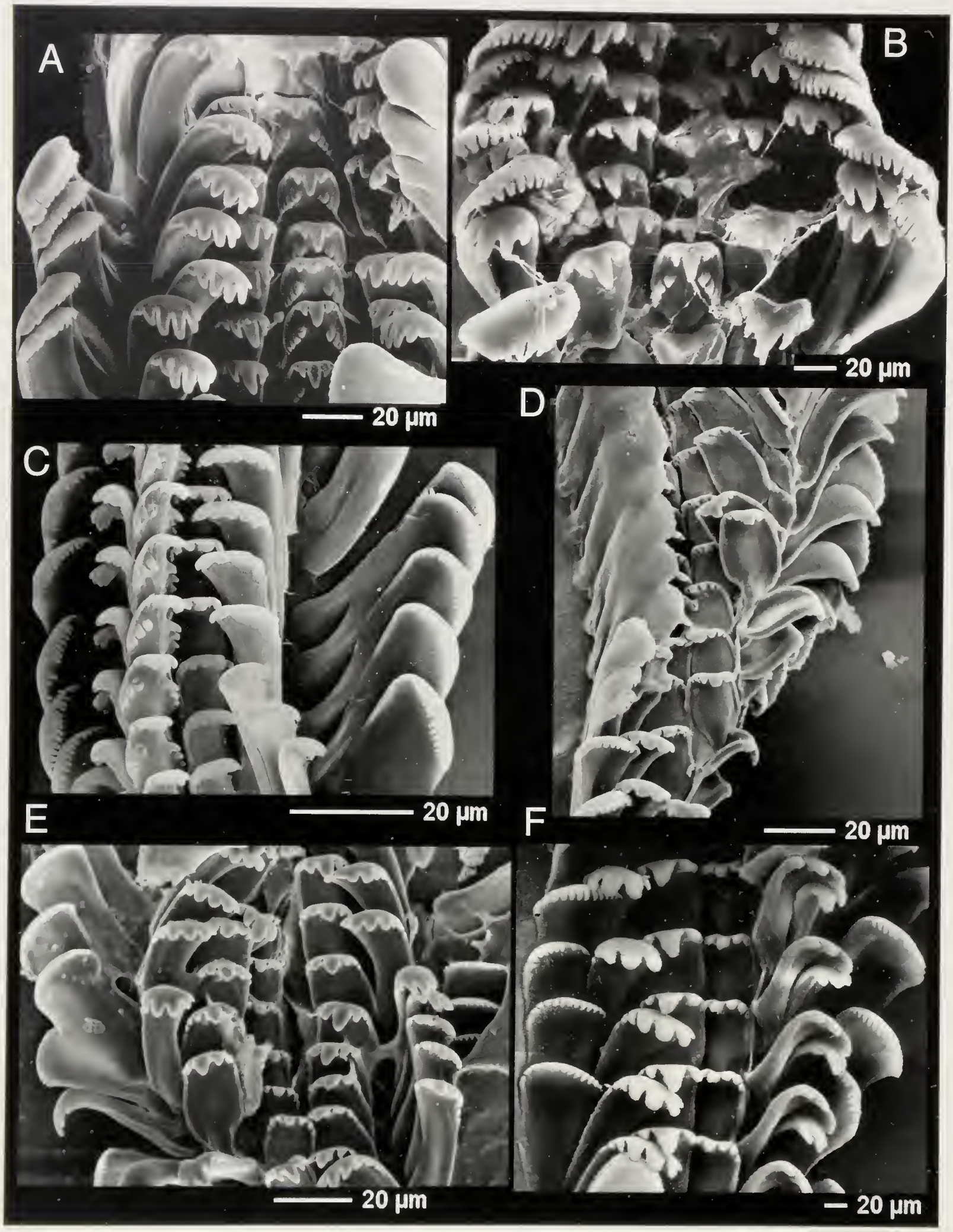

Figure 9. Radulae of *Assiminea*. **A.** *Assiminea grayana* Fleming, 1828, Belgium; **B.** *Assiminea grayana*, England; **C.** *Assiminea rolani* Aartsen, 2008, Madeira; **D.** *Assiminea* cf *hessei*, Corimbo, Luanda, Angola; **E-F.** *Assiminea principensis* spec. nov., Santo Antonio, Príncipe.

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Table 1. Comparison of the characters of the African species of *Assiminea*.

species	*A. moroccoensis*	*A. senegalensis*	*A. occulta*	*A. saotomensis*	*A. principensis*	*A.* cf *. hessei*
Protoconch whorls	1 ½	2	1	1 ¾	2 1/8	1 ¾
Diameter of the nucleus	90-100 µm	90 µm	110-120 µm	75 µm	80 µm	65-70 µm
Diameter of the protoconch	350-400 µm	360-400 µm	300-350 µm	320 µm	360-400 µm	340 µm
Microsculpture of the nucleus	rough	rough	Rough very fine	Rough very fine	Rounded pits	Rounded pits
Microsculpture of the remaining part of the protoconch	Fine spiral	Evident spiral cords	No	Spiral striae	Evident spiral cords	Small lines
Embryonic part in protoconch	yes	Yes, scarcely evident	No	Probably yes	Probably yes	Very evident
Separation the protoconch and teleoconch	Clear Not thick	Clear Not thick	Clear Not thick	Clear; Not thick	Clear; Not thick	Very evident with a thick lip
Teleoconch sculpture	No	No	Subsutural cordlet	Rough surface	No	Growth lines
Umbilicus	No	Narrow	No	No	Narrow?	fissure
Animal colour	White	Mostly black	White	Mostly white	Mostly black	Mostly black
Central tooth, basal denticles	No	No	Yes	No	No	No

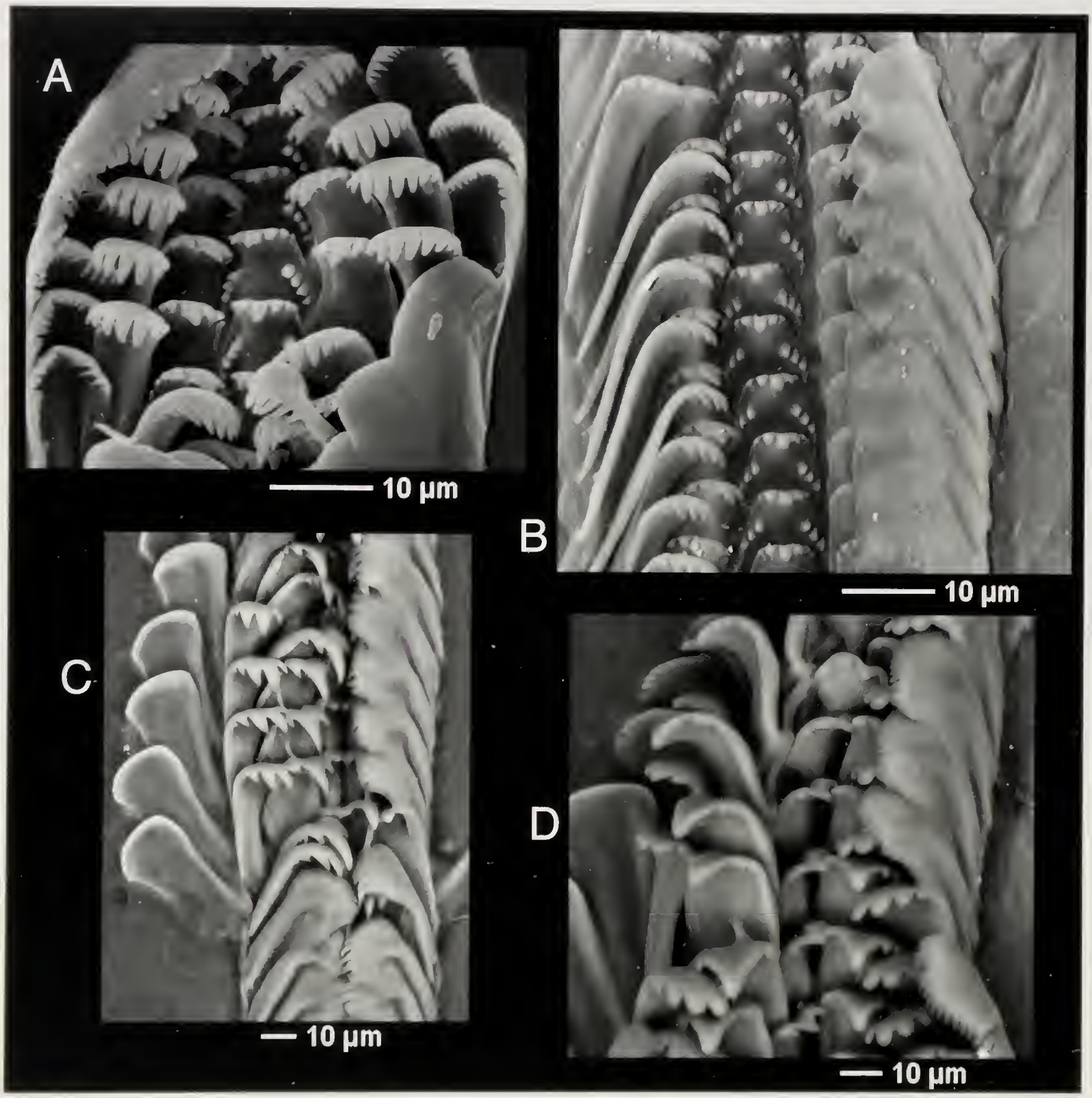

Figure 10. Radulae of *Assiminea*. **A-B.** *Assiminea occulta* spec. nov. **A.** Agua Izé, São Tomé I; **B.** population of Miamia, Ghana; C-D. *Assiminea saotomensis* spec. nov., Agua Izé, São Tomé.

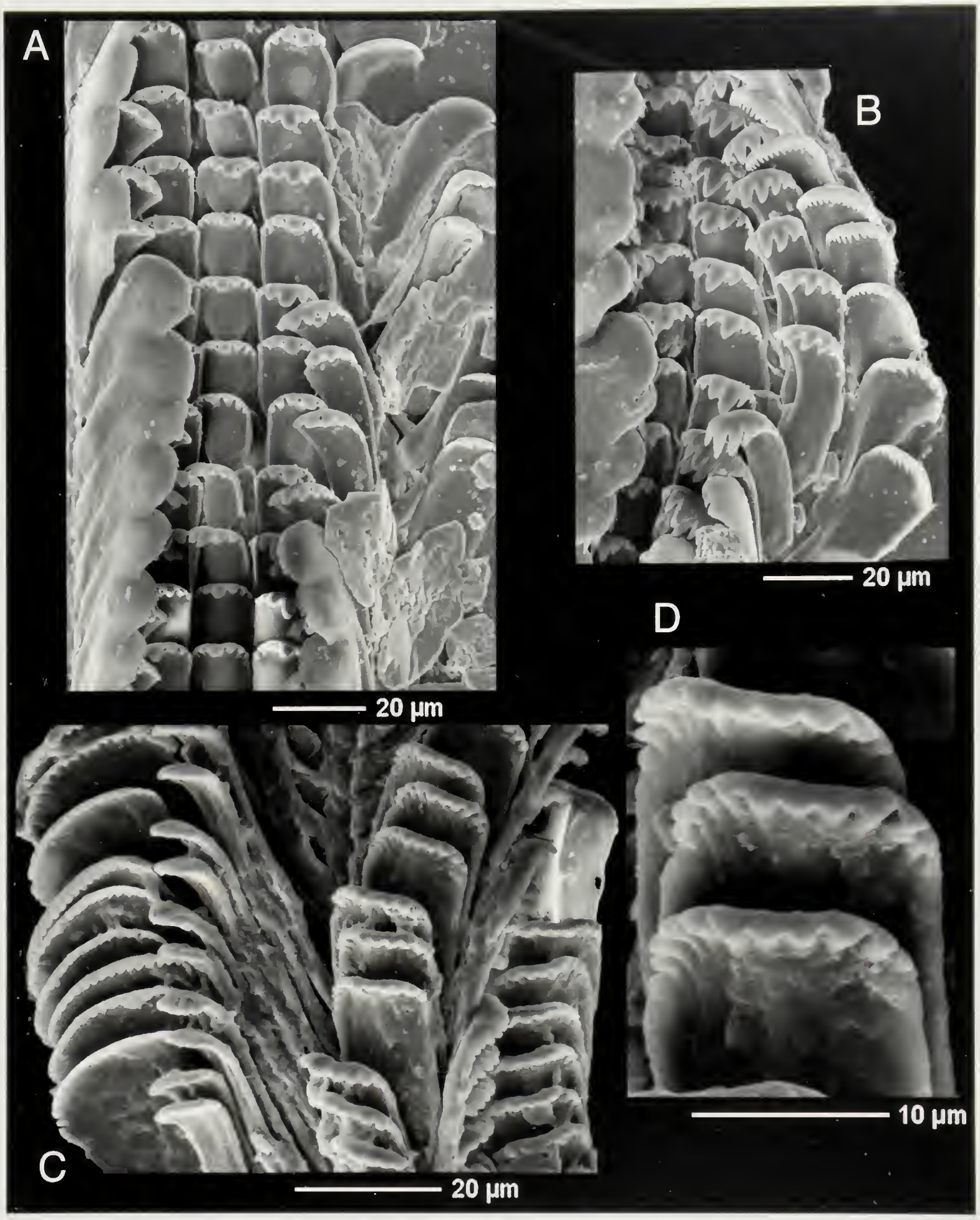

Figure 11. Radulae of *Assiminea*. **A-B.** *Assiminea senegalensis* spec. nov., Ziguinchor, Senegal; **C-D.** *Assiminea moroccoensis* spec. nov., Oualidia, Morocco.

Description of two new *Chicomurex* species (Gastropoda: Muricidae) from the Philippine Islands

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Keywords. Gastropoda, Muricidae, Muricinae, *Chicomurex* n. sp., Philippines.

Abstract. Two new muricids are described from southern Philippines. Both species belong to the genus *Chicomurex* and are compared with related species.

Résumé. Deux nouvelles espèces sont décrites du sud des Philippines. Les deux espèces appartiennent au genre *Chicomurex* et sont comparées aux espèces apparentées.

INTRODUCTION

The Philippine marine mollusks were recently illustrated by several authors in a series of 4 colourful volumes edited by Conchbooks and Guido T. Poppe. Volume II contains the family Muricidae (Houart, 2008; Oliverio, 2008).
Altogether, the family then totaled more than 250 species in the Philippines, all subfamilies included, except Ocenebrinae and Haustrinae which are absent from that part of the world. Since then, new discoveries have increased that number and I now suspect the number of muricids in the Philippines to reach a total of 270-275 species.

Material and methods

The two new species described here were taken by tangle nets in 80-250 m, north of Mindanao, south of Leyte and off Bohol, in the central Philippines (Fig. 26).

Abbreviations

repositories

IRSNB: Institut royal des Sciences naturelles de Belgique, Brussels, Belgium.
MNHN: Muséum national d'Histoire naturelle, Paris, France.
NHMUK: Natural History Museum, London, United Kingdom.
RH: collection of the author.
USNM: National Museum of Natural History, Washington, D.C., U.S.A.

Specimens

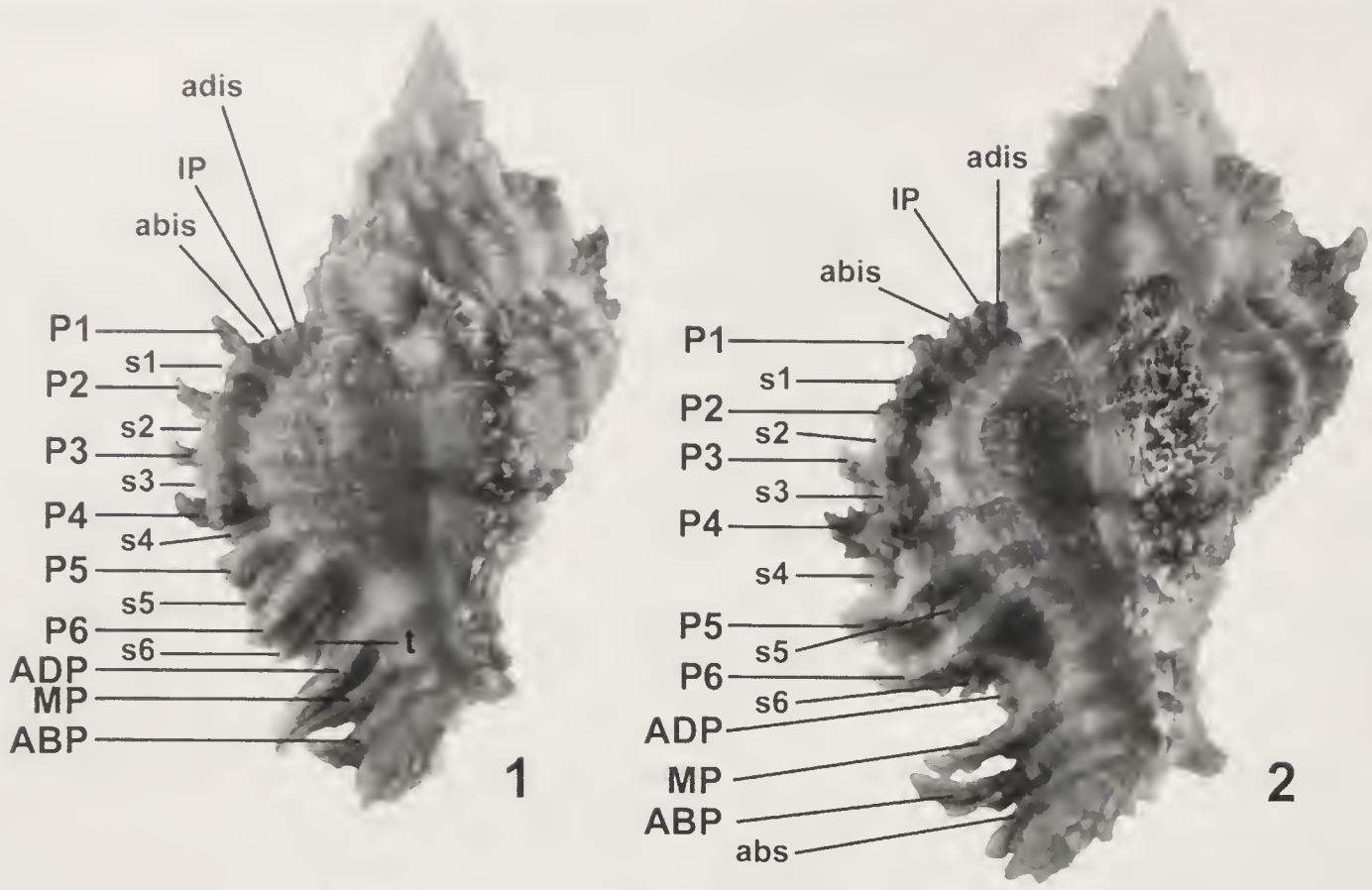
ad: adult specimen;
dd: empty shell(s);
juv: juvenile specimen;
lv: live collected specimen(s).

Other abbreviations

Terminology used to describe the spiral cords (after Merle, 2001 and 2005) (Figs 1-2).
In parentheses: erratic feature.

P: primary cord
s: secondary cord
t: tertiary cord
ad: adapical (or adapertural)
ab: abapical (or abapertural)
IP: infrasutural primary cord (primary cord on subsutural ramp)
adis: adapical infrasutural secondary cord (on subsutural ramp)
abis: abapical infrasutural secondary cord (on subsutural ramp)
P1: shoulder cord
P2-P6: primary cords of the convex part of the teleoconch whorl
s1-s6: secondary cords of the convex part of the teleoconch whorl
example: s1 = secondary cord between P1 and P2; s2 = secondary cord between P2 and P3, etc.
ADP: adapertural primary cord on the siphonal canal
MP: median primary cord on the siphonal canal
ABP: abapertural primary cord on the siphonal canal
ads: adapertural secondary cord on the siphonal canal

Aperture
D1 to D6: abapical denticles;
ID: Infrasutural denticle.



Figs 1-2. Spiral cords morphology

1. *Chicomurex tagaroae* n. sp., holotype MNHN.
2. *Chicomurex ritae* n. sp., holotype MNHN.

SYSTEMATICS

Family **MURICIDAE** Rafinesque, 1815
Subfamily **Muricinae** Rafinesque, 1815
Genus ***Chicomurex*** Arakawa, 1964
Type species by original designation: *Murex superbus* Sowerby, 1889, Pacific Ocean.

Chicomurex tagaroae n. sp.
Figs 1, 3-8, 21-22, 26

Type material. Philippines, Mindanao, Surigao, Mabua, trawled in 100-120 m, 2013, holotype MNHN 26628, lv, ad, 36.6 mm.
Paratypes: Philippines, Mindanao, Surigao, Basul Is., 80-100 m, 1 lv, ad, IRSNB IG 32453/MT.2901, 27.8 mm; 1 lv, ad, USNM 1221048, 26.4 mm; 3 lv, 2 ad, 1 juv, RH, 32.6, 27.1, 22.7 mm; Mindanao, Surigao del Norte, Basul Is., trawled in 80-100, Nov. 2012, 1 lv, ad, NHMUK 20130378, 25.1 mm.

Other material. Philippines, Mindanao, Surigao del Sur, 100 m, Dec. 2012, RH, 1 lv; Philippines, Mindanao, Surigao, Basul Is., 80-100 m, RH, 17 lv. and dd., ad. and juv.

Type locality. Philippines, Mindanao, Surigao, Mabua, trawled in 80-100 m, 2013.

Distribution. Southern Philippines, north of Mindanao, living at 80-100 m.

Description. Shell small sized for the genus, up to 44.5 mm in length at maturity (RH). Length/width ratio 1.65-1.72. Biconical, broadly ovate, heavy, squamous and nodose.
Subsutural ramp narrow from first to fourth whorls, very weakly sloping, weakly concave; from fifth to last whorl ramp broader, including P1 and s1, reaching P2 spiral cord on shoulder margin.
Light tan, brown or light orange with weakly or strongly darker coloured axial varices on last teleoconch whorl, or uniformly coloured with occasional additional dark blotches on varices and subsutural ramp. Spire whorls occasionally pinkish. Columellar lip light pink to dark mauve, aperture white or bluish-white.
Spire high with 1.5-2 protoconch whorls and teleoconch of up to 7 or 8 relatively broad, strongly convex, more or less shouldered, weakly spinose, nodose whorls. Suture weakly adpressed. Protoconch small, whorls rounded, smooth, width 700-900 µm, height 750-950 µm. Terminal lip heavy, narrow, very weakly curved.
Axial sculpture of teleoconch whorls consisting of low, narrow, nodose ribs and high, strong, narrow, frondose varices, each with short, frondose, narrow spines extending from primary and secondary spiral cords. First teleoconch whorl with 16-19 ribs, second with 14-18, third whorl starting 3 varices per whorl; three varices with 4 or 5 intervarical ribs from third to fifth whorls, sixth whorl with 3 varices and 3 or 4 intervarical ribs, seventh and last whorl with 3 varices

and 2, rarely 3, more or less conspicuous intervarical nodes. Last (apertural) varix broadest and large. Additional axial sculpture of squamous growth lamellae. Spiral sculpture of moderately high, rounded, primary, secondary and tertiary cords. Visible part of first and second teleoconch whorls with rounded, narrow P1-P4, third whorl starting IP, s1, s2 and s3, fourth whorl with IP, P1, s1, P2, s2, P3, s3, P4; P4 occasionally covered by following whorl, fifth whorl starting tertiary cords. Subsutural ramp of last teleoconch whorl with adis, IP, abis and additional tertiary cords, followed by P1, t, s1, t, then P2 on shoulder margin; convex part of whorl with s2, P3, s3, P4, (s4), P5, s5, P6, s6, occasionally followed by one or two tertiary cords. Siphonal canal with ADP, MP, ABP. P2-P6 spines crowded, very close from each other, joined by varical flange, forming ventrally squamous varix.

Aperture broad, roundly ovate. Columellar lip narrow with low parietal tooth at adapical extremity, otherwise smooth; rim weakly erect. Anal notch narrow, shallow. Outer lip erect, crenulated, with narrow lirae within, extending into aperture, corresponding to split ID, D1-D6. Siphonal canal short, broad, strongly dorsally recurved at tip, narrowly open, with adapically curved ADP, MP and ABP spines. ADP spine more or less dorsally bent.

Operculum brown, ovate or roundly ovate with subapical nucleus. Attached surface with broad callused rim.

Radula unknown.

Remarks. When the protoconch is intact, it is not difficult to separate *Chicomurex tagaroae* n. sp. from *C. laciniatus* (Sowerby, 1841) (Figs 14-18, 24-25). In *C. tagaroae* the protoconch is paucispiral, rounded, consisting of 1.5 to 2 whorls, ending with an almost straight lip (see Figs 21-22), while in *C. laciniatus* the protoconch is multispiral, conical, consisting of 2.5-3 whorls, of which the last whorl has a narrow keel abapically and ends with a sinusigera notch (see Figs 24-25). Other differences are more subtle to see, however, *C. tagaroae* consistently has a shorter siphonal canal relative to the spire height, see for example Figs 3-8 and 14-18. This is even more apparent in larger shells. In *C. tagaroae* the spire height is 45-49 % of the total shell length whereas it is 43-44 % in *C. laciniatus*; the length of the siphonal canal is 27-33 % of the total shell length *vs* 32-35 % in *C. laciniatus*, and in *C. tagaroae* the height of the spire is 14-16.9 % larger than the siphonal canal compared to 12.5-13.8 % in *C. laciniatus*.

The spire of *C. tagaroae* is also comparatively broader than in *C. laciniatus*, more particularly between the second and seventh whorls, where the spire has a straighter outline *vs* more incurved in *C. laciniatus*. In *C. tagaroae* the height of the last teleoconch whorl is also relatively smaller than in *C. laciniatus*.

Differences in the spiral cord morphology were not observed thus far, both species having a more or less similar ontogeny. The colour is also similar in both species ranging from light orange to tan or light brown with darker coloured varices on the last teleoconch whorl and with a very light or darker mauve columellar lip.

Smaller or subadult shells of *C. tagaroae* could be also confused with *C. turschi* (Houart, 1981) (Figs 19-20), however, small specimens of *C. tagaroae* are stouter than *C. turschi* with a comparatively lower spire, lower and relatively broader whorls and narrower, more numerous intervarical ribs. The siphonal canal is shorter with more crowded ADP, MP and ABP spines, and the columellar lip is light to darker mauve in *C. tagaroae* while always white in *C. turschi*.

Chicomurex tagaroae may also be compared with *C. rosadoi* (Houart, 1999) from Mozambique, but *C. tagaroae* has lower, more numerous teleoconch whorls relative to its shell length, a shorter siphonal canal, less obvious intervarical nodes and chiefly a very different protoconch which is almost 3 or 4 times smaller than in *C. rosadoi*, which has a voluminous protoconch denoting intracapsular larval development. The other *Chicomurex* species, all occurring in the Indo-West Pacific and some in the Philippines, are not related and do not need to be compared here.

Etymology. I am pleased to dedicate this new species to Sheila P. Tagaro from Conchology, Inc., Cebu, Mactan Island, Philippines.

Chicomurex ritae n. sp.

Figs 2, 9-13, 23, 26

Type material. Philippines, Leyte, Sogod, 100-150 m, 2013, holotype MNHN 26629 , lv, ad, 42.9 mm;
2 paratypes Philippines, Mindanao, Siargao, Lipata, 80-100 m, lv, 1 ad, 1 juv, RH, 39.5, 27.8 mm.

Other material. Philippines, Mindanao, Surigao, Basul Is., 80-100 m, 1 lv, juv, RH; Balut Island, 150 m, 1 lv, ad, RH.

Type locality. Philippines, Leyte, Sogod, 100-150 m, 2013.

Distribution. Southern Philippines, south Bohol, south Leyte, north and south Mindanao, living at 80-150 m.

Description. Shell medium-sized for the genus, up to 45 mm in length at maturity (RH). Length/width ratio 1.6-1.7. Broadly ovate, heavy, spinose, squamous. Subsutural ramp narrow, weakly sloping, lightly concave or straight; very narrow and almost horizontal from first to fifth whorl, broader and more strongly sloping from sixth to last whorl.

Orange or light brown, last whorl with darker coloured varices or with dark brown blotches on varices, including siphonal canal, on subsutural area and

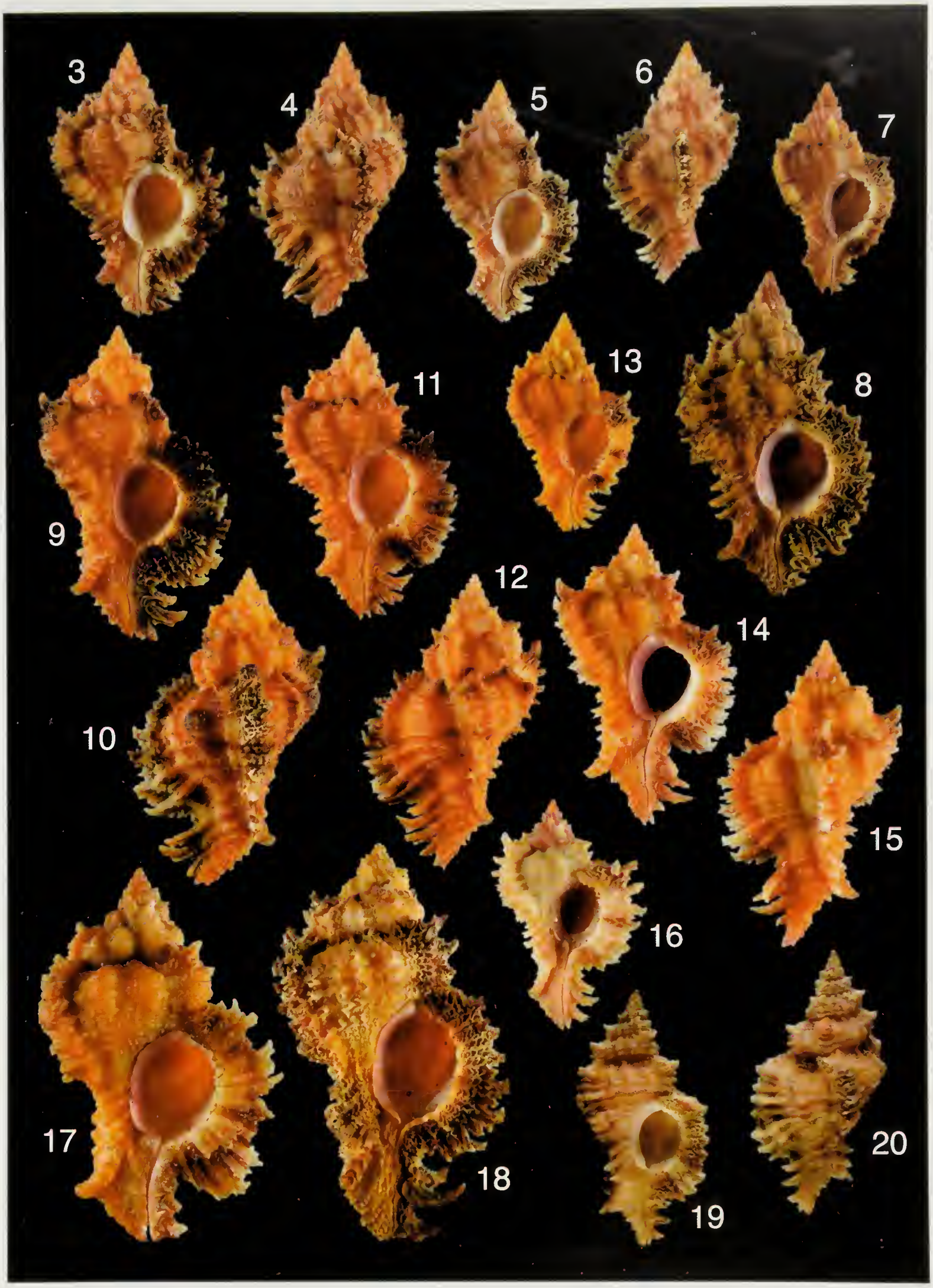
occasionally on intervarical nodes. Columellar lip light to dark mauve, inside of aperture bluish-white.
Spire high with 2 protoconch whorls and teleoconch up to 8 broad, weakly angular, shouldered, nodose and squamous whorls, suture impressed. Protoconch small, whorls rounded, smooth, width 600 µm, height 800 µm. Terminal lip weakly erect, narrow, lightly curved.
Axial sculpture of teleoconch whorls consisting of strong, narrow, nodose ribs and high, narrow, rounded, frondose varices, each varix with short, frondose, narrow, primary and secondary spines, extending from primary and secondary spiral cords. Shoulder spine shortest. First teleoconch whorl with 14 ribs, second with 13 or 14, third starting varices with 2 or 3 intervarical axial ribs, fourth to last whorl with 3 varices and 2 or 3 intervarical ribs or nodes. Last teleoconch whorl with 2, rarely 3 intervarical ribs with strong node at shoulder. Spiral sculpture of high, strong, rounded, squamous or nodose primary, secondary and tertiary cords. First and second teleoconch whorls with visible P1-P4, third and fourth with IP, P1, s1, P2, s2, P3, s3; P4 covered by next whorl. Fifth and sixth whorls with adis, IP, abis, P1, s1, P2, s2, P3, s3 and a few tertiary cords between primary and secondary cords. Seventh whorl of a juvenile with adis, IP, abis, P1, s1, P2, s2, P3, s3, P4, s4, P5, P6, s6, ADP, MP, ABP and some tertiary cords and threads. Last whorl of holotype with adis, IP, abis, P1, s1, P2, s2, P3, s3, P4, s4, P5, s5, P6, s6, ADP, MP, ABP and numerous, squamous, tertiary cords and threads. Primary cords extending on varices as short, broad, squamous, weakly adapically recurved open spines, increasing in strength and length abapically, P1 shortest, P5 and P6 longest and broadest. Apertural varix broad, ventrally strongly squamous.
Aperture moderately large, broadly ovate. Columellar lip narrow, weakly broader abapically, rim adherent, weakly erect abapically with weak, low parietal tooth at adapical extremity. Anal notch shallow, broad. Outer lip weakly erect, crenulated, with low, narrow lirae within, corresponding to split ID, D1-D6. Siphonal canal relatively short, broad, strongly dorsally bent at tip, narrowly open, with 3 long, frondose ADP, MP and ABP spines; ADP more or less strongly dorsally bent. Adapical extremity of siphonal canal occasionally with additional, small abs.
Operculum and radula unknown.

Remarks. As in *Chicomurex tagaroae* it is not real difficult to separate *C. ritae* n. sp. from *C. laciniatus* (Figs 14-18, 24-25) when the protoconch is intact. In *C. ritae* the protoconch is paucispiral, rounded, consisting of 1.5 to 2 whorls (see Fig. 23), ending with an almost straight lip, similar to *C. tagaroae*, while in *C. laciniatus* the protoconch is multispiral, conical, consisting of 2.5-3 whorls, of which the last whorl has a narrow keel abapically and ends with a sinusigera notch (see Figs 24-25).
Chicomurex ritae also differs from *C. laciniatus* in having a higher spire relative to shell length and to the siphonal canal length, the siphonal canal is also comparatively shorter and the last teleoconch whorl is comparatively stockier. The gap between P6 and ADP is slightly narrower than in *C. laciniatus*, less indented and more gently inward curved
Chicomurex laciniatus is a quite variable species and some extreme forms are sometimes difficult to separate from *C. ritae*, however, the relative spire height and the length of the siphonal canal can certainly help to distinguish both species. The help of the protoconch morphology, or even a part of the last protoconch whorl where a narrow, abapical keel can be seen in *C. laciniatus*, even in some eroded shells is another way to distinguish the species.

Etymology. This species is dedicated to my wife Rita who is at my side for over 40 years and has to accept for such a long time that I share my life with her and with… my muricids.

Figures 3-20

3-8. *Chicomurex tagaroae* n. sp.
3-4. Philippines, Mindanao, Surigao, Mabua, 100-120 m, 2013, holotype MNHN 26628, 36.6 mm; **5-6.** Philippines, Surigao, Basul Is, 80-100 m, 2013, paratype RH, 32.8 mm; **7.** Philippines, Mindanao, Surigao, Basul Is, 80-100 m, 2013, paratype RH, 22.6 mm; **8.** Philippines, Mindanao, Surigao del Sur, 100 m, Dec. 2013, RH, 44.5 mm.
9-13. *Chicomurex ritae* n. sp.
9-10. Philippines, Leyte, Sogod, 100-150 m, 2013, holotype MNHN 26629, 42.9 mm; **11-13.** Philippines, Mindanao, Surigao, 2012, paratypes RH, **11-12.** 39.5 mm; **13.** 27.8 mm.
14-18. *Chicomurex laciniatus* (Sowerby, 1841)
14-15. Philippines, Cebu, Sogod, 150-250 m, 2010, RH, 38.5 mm; **16.** Philippines, Leyte, Sogod, Sep. 1978, RH, 30.5 mm; **17.** Australia, QLD, Lodestone Reef, 1995, RH, 56.7 mm; **18.** Philippines, Mactan, RH, 54.7 mm.
19-20. *Chicomurex turschi* (Houart, 1981). Laing Is, Hansa Bay, Papua New Guinea, paratype RH, 35.6 mm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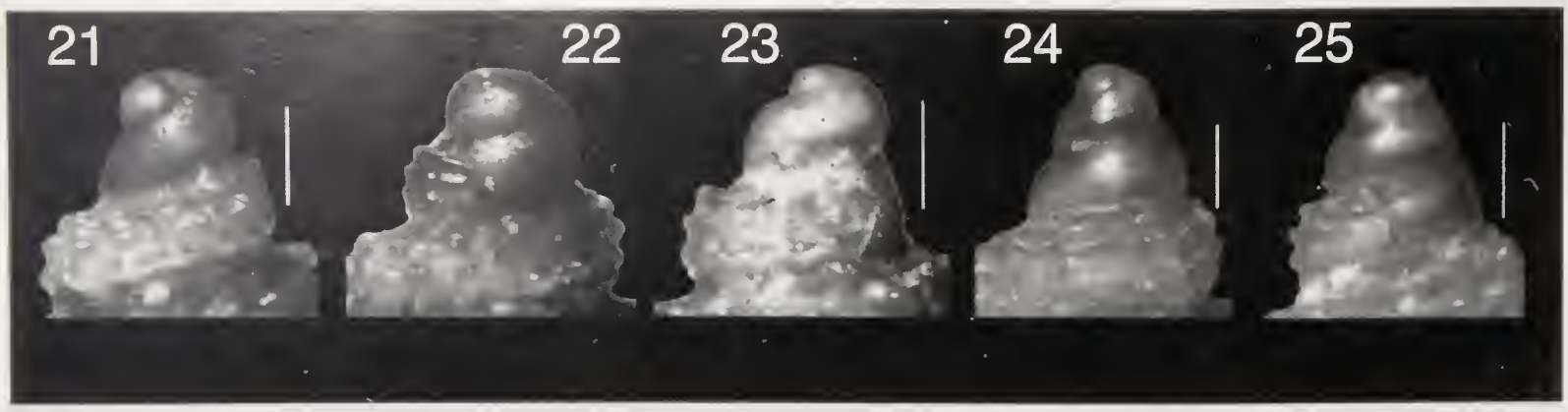

Figures 21-24. Protoconchs (scale bars 500 µm)

21-22. *Chicomurex tagaroae* n. sp. (specimen illustrated in Fig. 7); **23.** *Chicomurex ritae* n. sp. (specimen illustrated in Fig. 13); **24.-25.** *Chicomurex laciniatus* (Sowerby, 1841) (specimen illustrated in Fig. 16)

Fig. 26. Distribution of *Chicomurex tagaroae* n. sp. (circles) and *C. ritae* n. sp. (stars) in the Philippine Islands.

ACKNOWLEDGMENTS

I am very grateful to Guido and Philippe Poppe from Conchology, Inc., The Philippines, for their comments, for the gift of the type material and other specimens of *C. tagaroae* n. sp. and for their financial support for the colour plate illustrating this article. They also regularly send me specimens to study and/or for my reference collection. Thanks also to John Wolff, Lancaster, Pennsylvania, USA, for checking the English text and to Claude Vilvens (Oupeye, Belgium) for a final, careful check of the manuscript.

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A new deep water miter (Gastropoda: Mitridae) from the Indian Ocean

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KEYWORDS. Mitridae, *Mitra*, Somalia, Madagascar, new species.

ABSTRACT. A new species of Mitridae, *Mitra (Mitra) roselineae*, is described from deep water off Somalia and northern Madagascar. It is compared with *Swainsonia fusca* Swainson, 1824 and with *Mitra floccata* Reeve, 1844.

INTRODUCTION

In 1991 Somalia collapsed into civil war and numerous trawlers harbored in Mogadishu moved to Djibouti for security. As a result, large quantities of shells, byproducts of shrimp trawling, were put on the local market by fishermen. Among them were true rarities such as *Cypraea broderipi*, *Chimeria incomparabilis*, and many species new to science. Three specimens of *Mitra roselinae* n.sp. were found at this time in a basketful of shells. Another specimen was purchased at Diego Suarez in northern Madagascar from a local shell dealer.

Abbreviations

MNHN: Muséum national d'Histoire naturelle, Paris, France.
RAS: Richard A Salisbury, Meridian, Idaho, USA

SYSTEMATICS

Superfamily **MURICOIDEA** Rafinesque, 1815
Family **MITRIDAE** Swainson, 1831
Subfamily **Mitrinae** Swainson, 1831
Genus ***Mitra*** Lamarck, 1798
Subgenus ***Mitra*** Lamarck, 1798
Type species: *Voluta mitra* Linnaeus, 1758, by subsequent designation, Recent, Indo-Pacific

Mitra* (*Mitra*) *roselineae n. sp.
Figs 1- 5

Swainsonia fusca – Thorsson & Salisbury 2003a: 3, 15, 16, pl. 286B (not *M. fusca* Swainson, 1824).
Mitra species (correction) – Thorsson & Salisbury, 2003b: 7.

Type material. Holotype: MNHN 25857 (Figs 1-3): Length 34.9 mm, width 12.1 mm, aperture 19.0 mm. Somalia, off Ras Hafun, trawled, 150-200 meters, 1991, ex. J. C. Martin coll. # 4929B.

Paratype # 1 (Figs. 4-5). Length 30.4 mm, width 10.2 mm, aperture 16.8 mm. Somalia, off Ras Hafun, trawled, 150-170 meters, 1991, ex. J. C. Martin coll. # 4929A, RAS collection

Paratype # 2. Length 41.1 mm, width 12.8 mm, aperture 19.0 mm. Somalia, off Ras Hafun, trawled, 150-170 meters, 1991, J. C. Martin coll. # 4929C.

Paratype # 3. Length 31.5 mm, width 10.7 mm, aperture 17.5 mm. N. Madagascar, Diego Suarez, from shrimp fishing grounds, no depth recorded, J. C. Martin coll. # 7959.

Paratype # 4. Length 35.5 mm, width 10.5 mm, aperture 18.0 mm. Somalia. No collection data, Hans-Heinrich Heinicke collection.

Paratype # 5. Length 36.0 mm, width 11.0 mm, aperture 18.5 mm. Somalia. No collection data, Hans-Heinrich Heinicke collection.

Distribution. East Africa, Off Somalia, south to northern Madagascar in 150-200 meters, on shrimping grounds.

Description. Shell of medium size to 41.6 mm, elongate-fusiform, protoconch unknown, early whorls smooth with 3 to 5 punctate, spiral grooves, tiny microscopic axial grooves connect some punctations, whorls slightly convex, suture distinct, impressed with tiny crenulations on penultimate and teleoconch whorls, body whorl with 6 or 7 shallow, punctate,

spiral grooves becoming obsolete on lower body whorl. Aperture narrow, slightly longer than half total shell length, outer lip thickened, with 3 to 7 pustules on outer lip near siphonal canal, aperture smooth within, columella heavily callused, with 3 columellar folds. Siphonal notch obliquely angled, deeply notched. Base color light to dark brown, with a lighter colored band between aperture and suture, small white spots and streaks at the suture, some specimens display a distinct brown and white spiral striping on the lower body whorl. Aperture light brown background color, darker toward the outer lip; columellar folds reddish.

Remarks. *Mitra roselineae* could be confused with *Swainsonia fusca* Swainson, 1824 (Figs 6-7) which is also found in East Africa. The original description reads "Shell thick ovate, smooth, brown, spire contracted, suture minutely crenulated: outer lip thick, gibbous, smooth: pillar 4-plaited". The columellar folds number 5-6 on *Swainsonia fusca* and override the columella which is a distinguishing characteristic of most *Swainsonia* species. Additionally in the original description Swainson describes the shell as "length one inch [25.4 mm]". This is smaller than our new species which can reach 41.6 mm in length. *Mitra zephyrina* Sowerby, 1874 was described from Mauritius and is considered a synonym of *Swainsonia fusca*. *Mitra roselineae* differs from *S. fusca* in being larger, dark brown with a distinct brown and white spiral striping on the lower body whorl, the interior of the aperture is brown versus white. This species differs from *Mitra floccata* Reeve, 1844 (Figs 8-9) in being slenderer and shiny; the interior of the aperture is reddish brown versus white. Adult specimens of *Mitra floccata* can reach 60 mm. *Mitra roselineae* is smaller to approximately 41.6 mm in length.

Etymology. Named in honor of Mrs. Roseline Martin, wife of the senior author.

Acknowledgements

Thanks to Alain Cornic who purchased the Somalian shells in Djibouti from a fisherman working aboard "scampi" trawlers from Somalia, to John Wolff for review of the early versions of this manuscript and to Roland Houart for further comments and for the layout of the plate.

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Thorsson, W. & Salisbury, R. 2003a. Living Mitridae: Chapter 10, *Swainsonia*, part 1, *Internet Hawaiian Shell News*, August 2003, Feature 1: 2-25.

Thorsson, W. & Salisbury, R. 2003b. Living Mitridae: Chapter 11, *Domiporta*, part 1, *Internet Hawaiian Shell News*, September 2003, Feature 1: 2-16.

Figures 1-9

1-5. *Mitra (Mitra) roselineae* n. sp.
1-3. Holotype MNHN 25857, length 34.9 mm, width 12.1 mm, aperture 19.0 mm. Off Ras Hafun, Somalia, trawled, 150-200 meters, 1991, ex. J. C. Martin coll. # 4929B; **4-5.** Paratype 1: Length 30.4 mm, width 10.2 mm, aperture 16.8 mm. off Ras Hafun, Somalia, trawled, 150-170 meters, 1991, ex. J. C. Martin coll. # 4929A, RAS collection.
6-7. *Swainsonia fusca* (Swainson, 1824), Cap Champagne, Reunion Island, May 1985, collected by Jean Drivas, inside of lagoon, in sand, RAS collection, size: 21.6 x 8.6 x 12.1 mm.
8-9. *Mitra (Mitra) floccata* Reeve, 1844, Cargados Carajos, N.E. of Mauritius, beached after a storm, April 03, 2002, Jacques Bertard collection, size: 56.4 x 18.0 mm (photo J. C. Martin).

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Conditions Générales. L'affiliation á la Société n'est pas obligatoire pour les auteurs. La publication des articles de maximum 12 pages imprimées en double interligne est gratuite. Au-delá de 12 par numéro, chaque page sera facturée au prix de 40,00 €. Les articles de taille supérieure peuvent être scindés sur plusieurs numéros.
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Mayr, E. 1989. Attaching names to objects. In: *What the philosophy of biology is : essays for David Hull* (M. Ruse, ed.), Klumer Academic, Dordrecht: 235-243.
Source Internet:
Auteur(s) 2007. Titre du site web ou de la base de données, nom de l'éditeur et localité (si indiquée), nombre de pages, adresse: http://www.... (date d'accés).

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Powell, A.W.B. 1979. *New Zealand Mollusca. Marine, land and freshwater shells*. William Collins Publishers Ltd: xiv + 500 pp.
Mayr, E. 1989. Attaching names to objects. In: *What the philosophy of biology is : essays for David Hull* (M. Ruse, ed.), Klumer Academic, Dordrecht: 235-243.
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NOVAPEX/SOCIETE

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NOVAPEX / Société

Prochaines activités de la SBM

Claude VILVENS

Lieu de réunion : **A partir de 14h, à notre local habituel :**

Salle "Memling" (1er étage - ascenseur) - Rue de Genève, 470b – Schaerbeek (Bruxelles)

SAMEDI 9 NOVEMBRE 2013

Tout le monde : Atelier "Posters de la SBM" (bis)

La confection en "live" de nos posters de notre réunion du 7 septembre a été un succès et tous les participants ont apprécié cette promenade au pays des belles coquilles. Au point qu'ils ont décidé de poursuivre le travail au cours d'une autre réunion, avec d'autres photos, pour compléter les posters commencés et en attaquer d'autres ☺ !

Pour rappel, ces posters sont très appréciés des naturalistes et constituent pour la SBM une belle carte de visite. Les thèmes en chantier sont "Coquillages du monde entier" (donc, un pour gastéropodes exotiques et un pour bivalves exotiques) et "Mollusques de Méditerranée" (mais ce ne sont que des exemples, toutes les idées seront les bienvenues dans la suite). Comme la dernière fois, nous construirons sur nos portables raccordés à un projecteur les posters souhaités.

Un bon moyen de combiner connaissances et design ;-) ! Nous comptons sur vous !

***

SAMEDI 14 DECEMBRE 2013

Roland Scaillet et Christiane Delongueville : Récoltes malacologiques en République turque de Chypre du Nord

Après trois séjours dans le nord de l'île de Chypre, le temps était venu de rassembler en une présentation un panorama de l'iconographie malacologique marine de cette partie de l'île. Précédée d'un survol historique, géographique et climatologique, la présentation de ce 14 décembre sera l'occasion de revenir sur le phénomène toujours en cours de la colonisation de la partie levantine de la Méditerranée par les espèces en provenance de la Mer Rouge. La migration lessepsienne dans le nord de l'île sera abondamment illustrée au cours de cette conférence.

***

Pour rappel, pause en janvier pour éviter les déplacements périlleux sur des routes enneigées ou verglacées. Prochain rendez-vous en février 2014 – voir le prochain Novapex/Société de décembre.

Pour les informations de dernière minute :

Sur Internet :

http://www.societe-belge-de-malacologie.be/

Novapex/Société : la publication généraliste de la SBM

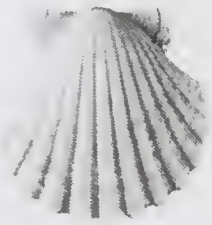
Rédacteurs en chef : Claude Vilvens & Etienne Meuleman

Tous les articles généraux sont les bienvenus pour Novapex/Société ☺ !

Afin de faciliter le travail de la Rédaction, il est vivement (et le mot est faible ;-)) souhaité de respecter les règles suivantes pour les articles proposés :

- document MS-Word (pour PC Windows XP ou 7);
- police de caractères Times New Roman;
- texte de taille 10, titres de taille 12;
- interligne simple;
- toutes les marges à 2,5 cm;
- document en une seule section;
- pas de mode colonne;
- photos en version électronique JPG ou PNG.

Merci pour les Scribes ;-) ! N'hésitez pas à demander une page avec en-tête pour cadrer au mieux vos travaux (vilvens.claude@skynet.be ou e.meuleman@skynet.be).



Analyse d'une laisse de mer récoltée à Tarifa (Espagne)

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Espagne, plage de Tarifa le 26 février 2013.
1kg de laisse de mer réduit à 2g de coquilles à déterminer.

Telle était la tâche que nous nous étions assignés dans *Novapex/Société* 2013; 14(2): 23.

Du boulot en perspective …

L'illustration d'une partie de l'échantillon révélait au premier coup d'œil la grande diversité des espèces représentées, en majorité des gastéropodes.
En quelques jours de travail, nous y avons identifié 18 espèces de bivalves et 87 espèces de gastéropodes.
Les deux tableaux qui suivent (bivalves - tableau 1 et gastéropodes - tableau 2) donnent une image de la micro-faune malacologique très caractéristique du Détroit de Gibraltar abondamment commentée et illustrée dans les deux tomes de l'ouvrage de Serge Gofas & al. - Moluscos marinos de Andalucía (2011).

Bivalves - Tableau 1

Mytilidae
- *Crenella arenaria* Monterosato, 1875
- *Gregariella semigranata* (Reeve, 1858)
- *Musculus costulatus* (Risso, 1826) #
- *Modiolarca subpicta* (Cantraine, 1835) #
- *Rhomboidella prideauxi* (Leach, 1815) #

Lasaeidae
- *Lasaea adansoni* (Gmelin, 1791) #

Montacutidae
- *Kurtiella bidentata* (Montagu, 1803) #
- *Kurtiella triangularis* (Watson, 1897) #
- *Montacuta goudi* van Aartsen, 1997
- *Montacuta phascolionis* Dautzenberg & H. Fischer, 1925

Galeommatidae
- *Vasconiella jeffreysiana* (Fischer in de Folin & Périer, 1873)

Kelliidae
- *Kellia suborbicularis* (Montagu, 1803) #

Neoleptonidae
- *Neolepton sulcatulum* (Jeffreys, 1859) #

Cardiidae
- *Parvicardium vroomi* van Aartsen & al.,1984 #

Psammobiidae
- *Gari costulata* (Turton, 1822)
- *Gari pseudoweinkauffi* von Cosel, 1989

Ungulinidae
- *Diplodonta intermedia* Biondi Giunti, 1859 #

Lyonsiidae
- *Lyonsia norwegica* (Gmelin, 1791)

Gastéropodes - Tableau 2

Fissurellidae
Fissurella nubecula (Linnaeus, 1758)
Scissurellidae
Anatoma aspera (Philippi, 1844)
Sinezona cingulata (O.G. Costa, 1861) **x**
Haliotidae
Haliotis tuberculata Linnaeus, 1758
Trochidae
Gibbula drepanensis (Brugnone, 1873)
Gibbula tingitana Pallary, 1901
Gibbula varia (Linnaeus, 1758)
Jujubinus ruscurianus (Weinkauff, 1868)
Turbinidae
Bolma rugosa (Linnaeus, 1767)
Skeneidae
Dikoleps marianae Rubio, Dantart & Luque, 1998
Dikoleps pruinosa (Chaster, 1896)
Dikoleps templadoi Rubio, Dantart & Luque, 2004
Dikoleps umbilicostriata (Gaglini, 1987)
Skenea catenoides (Monterosaro, 1877)
Skenea serpuloides (Montagu, 1808)
Skeneoides exilissima (Philippi, 1844)
Phasianellidae
Tricolia deschampsi Gofas, 1993 **x**
Tricolia entomocheila Gofas, 1993 **x**
Tricolia nordsiecki (Talavera, 1978)
Tricolia tingitana Gofas, 1982 **x**
Cerithiidae
Bittium simplex (Jeffreys, 1867)
Bittium submamillatum (de Rayneval & Ponzi, 1854)
Cassiella abylensis Gofas, 1987
Eulimidae
Curveulima dautzenbergi (Pallary, 1900)
Vitreolina philippi (de Rayneval & Ponzi, 1854)
Skeneopsidae
Skeneopsis planorbis (O. Fabricius, 1780) **x**
Cingulopsidae
Eatonina fulgida (J. Adams, 1797) **x**
Eatonina matildae Rubio & Rodriguez Babio, 1996 **x**
Rissoidae
Alvania fischeri (Jeffreys, 1884)
Alvania sculptilis (Monterosato, 1877) **x**
Alvania spinosa (Monterosato, 1890)
Alvania vermaasi van Aartsen, 1975 **x**
Alvania zylensis Gofas & Warén, 1982
Botryphallus epidauricus (Brusina, 1866)
Cingula trifasciata (J. Adams, 1800)
Crisilla aartseni (Verduin, 1984) **x**
Onoba josae Moolenbeek & Hoenselaar, 1987
Onoba guzmani Hoenselaar & Moolenbeek, 1987
Peringiella elegans (Locard, 1892)
Pusillina inconspicua (Alder, 1844)
Pusillina radiata (Philippi, 1836)
Pusillina testudae (Verduin, 1979)
Rissoa similis Scacchi, 1836
Setia amabilis (Locard, 1886) **x**
Setia anselmoi (van Aartsen & Engl, 1999) **x**
Setia bruggeni (Verduin, 1984)
Setia gittenbergeri (Verduin, 1984) **x**
Rissoidae
Setia lacourti (Verduin, 1984)
Setia pulcherrima (Jeffreys, 1848) **x**
Setia slikorum (Verduin, 1984) **x**
Setia turriculata Monterosato, 1884 **x**
Anabathridae
Nodulus contortus (Jeffreys, 1856)
Nodulus spiralis van der Linden, 1986
Pisinna glabrata (Mergele von Mühlfeld, 1824) **x**
Assimineidae
Paludinella globularis (Hanley in Thorpe, 1844)
Caecidae
Caecum cuspidatum Chaster, 1896
Caecum clarkii Carpenter, 1859
Tornidae
Tornus subcarinatus (Montagu, 1803)
Truncatellidae
Truncatella subcylindrica (Linnaeus, 1767)
Atlantidae
Atlanta selvagensis de Vera & Seapy, 2006
Marginellidae
Granulina vanhareni (van Aartsen & al., 1984) **x**
Rissoellidae
Rissoella diaphana (Alder, 1848)
Rissoella opalina (Jeffreys, 1848) **x**
Omalogyridae
Omalogyra atomus (Philippi, 1841) **x**
Omalogyra simplex (O.G. Costa, 1861)
Ammonicera fischeriana (Monterosato, 1869) **x**
Pyramidellidae
Chrysallida nivosa (Montagu, 1803) **x**
Odostomia improbabilis Oberling, 1970
Odostomia kromi van Aartsen & al., 1984
Odostomia lukisii Jeffreys, 1859
Odostomia scalaris MacGillivray, 1843
Turbonilla lactea (Linnaeus, 1758)
Murchisonellidae
Ebala nitidissima (Montagu, 1803)
Ebala pointeli (de Folin, 1868)
Cimidae
Graphis albida (Kanmacher, 1798)
Retusidae
Retusa mammillata (Philippi, 1836)
Retusa truncatula (Bruguière, 1792) **x**
Cylichnina umbilicata (Montagu, 1803)
Haminoeidae
Haminoea hydatis (Linnaeus, 1758) **x**
Philinidae
Philine angulata Jeffreys, 1867
Cavoliniidae
Cavolinia inflexa (Lesueur, 1813)
Clio pyramidata Linnaeus, 1767
Styliola subula (Quoy & Gaimard, 1827)
Limacinidae
Limacina bulimoides (d'Orbigny, 1836)
Heliconoides inflatus (d'Orbigny, 1836)
Otinidae
Otina ovata (Brown, 1827) **x**
Ellobiidae
Ovatella aequalis (Lowe, 1832)

TAILLE - PROVENANCES - ABONDANCE

Au vu de la **granulométrie** très fine du sédiment récolté, la taille des coquilles ne dépasse guère trois millimètres. En conséquence, on y trouve toutes les espèces de petite taille (*Dikoleps marianae* - Skeneidae de 0,9 mm de diamètre, *Setia pulcherrima* - Rissoidae de 1,5 mm de hauteur, *Ammonicera fischeriana* - Omalogyridae de 1 mm de diamètre et bien d'autres espèces encore), mais aussi beaucoup de spécimens juvéniles aisément identifiables (Scaperrotta & al. 2009 - 2012) : *Fissurella nubecula* - Fissurellidae, *Haliotis tuberculata* - Haliotidae, *Gibbula drepanensis* - Trochidae, *Bittium simplex* - Cerithiidae, ...

Certaines coquilles proviennent de l'étage **supra-littoral** (*Paludinella globularis* - Assimineidae), d'autres proviennent de l'étage **inter-maréal** (*Tricolia nordsiecki* - Phasianellidae), de l'étage **infra-littoral** (*Setia gittenbergeri* - Rissoidae, *Rissoella diaphana* - Rissoellidae) et même de l'étage **circa-littoral** (*Anatoma crispata* - Scissurellidae).
Outre ces coquilles **benthiques**, l'échantillon de laisse de mer contient également des espèces **pélagiques** (*Cavolinia inflexa* - Cavoliniidae, *Helioconoides inflatus* - Limacinidae).

L'endémisme lié aux conditions écologiques spécifiques du **Détroit de Gibraltar** est illustré par la présence de nombreuses espèces. Dans la famille des Cerithiidae on note *Cassiella abylensis* et dans celle des Rissoidae - *Onoba josae - Onoba guzmani - Pusillina testudae - Setia anselmoi - Setia gittenbergeri - Setia bruggeni...*

Les gastéropodes dont le nom est suivi du symbole « **x** » dans le tableau 2 étaient forts abondants (nombre d'exemplaires - minimum 10 et pour la plupart beaucoup plus). D'autres espèces n'ont été isolées qu'en un seul exemplaire (*Casiella abylensis - Skeneoides exilissima - Onoba josae - Onoba guzmani* ...) ou à peine plus (*Setia bruggeni - Ebala nitidissima - Limacina bulimoides* ...). Vu la taille microscopique de certaines espèces, la probabilité d'avoir manqué l'un ou l'autre spécimen lors de la séparation sable / coquille est évidente. Cependant, d'autres prélèvements réalisés antérieurement ne diffèrent pas énormément en nombre d'espèces et les espèces isolées en très petits nombres l'ont été à chaque fois de la même manière. Toutes les coquilles étaient vides, à l'exception de 3 spécimens operculés de *Tricolia nordsiecki*, de 2 spécimens operculés de *Skeneopsis planorbis* et de 3 spécimens operculés de *Rissoella diaphana.*

Il y avait relativement peu de bivalves, tant en nombre d'espèces qu'en nombre de spécimens. La majorité d'entre eux était représentée par des spécimens juvéniles (marqués dans le tableau 1 du symbole « # » si récoltés doubles) ou par l'une ou l'autre valve dépareillée.

CONCLUSION

Dix minutes de collecte « au feeling » à la lisière des vagues sur une plage de Tarifa, une bonne semaine pour l'extraction des spécimens sous la loupe binoculaire et quelques jours pour l'identification d'une centaine d'espèces, telles sont les trois étapes plaisantes que nous avons voulu vous faire partager.

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Scaperrotta M, Bartolini S. & Bogi, C. 2009 - 2010 - 2011 - 2012. *Accrescimenti - Stadi di accrescimento dei molluschi marini del Mediterraneo.* Tome I - II - III - IV. L'Informatore Piceno - Ancona - Italia, 167p - 176p - 184p - 184p.

L'excursion de printemps de la SBM (25 mai 2013) : la réserve des Roches Noires à Comblain-au-Pont

Claude VILVENS

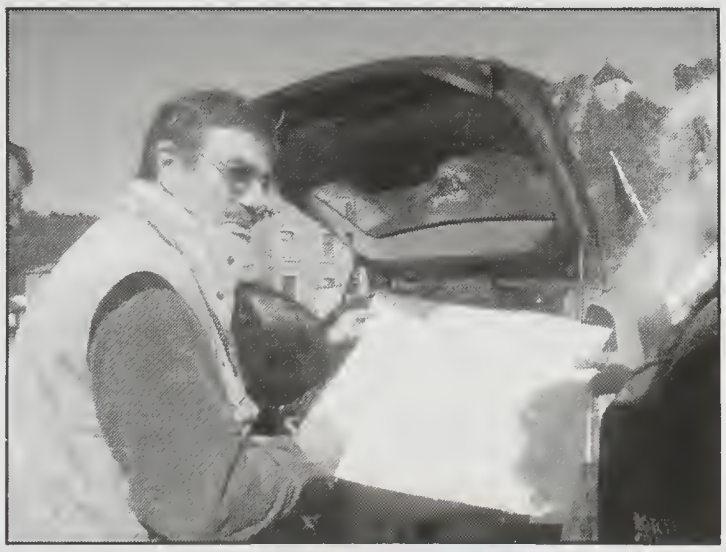
La région de Comblain-au-Pont est à priori plus connue pour son grand intérêt géologique que pour sa richesse malacologique. Nous doutant bien qu'il devait en être ainsi simplement parce que personne n'y avait prospecté, nous avons donc jeté notre dévolu sur cette belle région.

Après une première reconnaissance effectuée une semaine plus tôt par Claude et Etienne, munis d'une carte sur la nature des sols gentiment concoctée par une charmante dame de l'office du tourisme, nous nous sommes donc retrouvés ce 25 mai sur la place Leblanc à Comblain.

L'objectif : la réserve naturelle des Roches Noires. La balade a commencé par la traversée du parc du plateau Saint-Martin, avec son exposition en plein de sculptures. Après une zone découverte, nous sommes retrouvés au pied des Roches Noires, formée de dolomie, variété de calcaire dont la patine est assez foncée. La zone est bien connue pour ses pelouses calcaires et sa flore particulière.

Mais bien sur, nous étions là pour les mollusques et nous n'avons pas été déçus. "Nous", c'est l'équipe ci-dessous :

Claude & Denys Vilvens, Roland Scaillet, Etienne Meuleman, Marc Hilbert, l'épouse de Roland et celle de Claude et notre "invité international", Lilian, étudiant en 2ème master biodiversité à l'université de Liège et qui effectue son travail de fin d'études à l'université de Liège avec une large composante malacologique où la S.B.M. est partie prenante.



Plan de bataille (Claude et Roland)

Recherches approfondies (Claude, Lilian et Roland)

Listes des espèces de mollusques terrestres observées le 25/5/2012 à la réserve des Roches Noires à Comblain-au-Pont (déterminations : Lilian Léonard, Etienne Meuleman, Claude Vilvens)

Nom latin	Nom vernaculaire
Aegopinella nitidula (Draparnaud, 1805)	Grande luisantine
Arion rufus	Grande limace rouge
Carychium tridentatum (Risso, 1826)	Auriculette commune
Cepaea hortensis (Müller, 1774)	Escargot des jardins
Cepaea nemoralis	Escargot des haies ou des bois
Clausilia bidentata (Ström, 1765)	Clausilie noirâtre

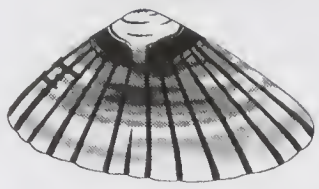
Clausilia rugosa parvula Ferussac, 1807	Clausilie naine
Cochlodina laminata (Montagu, 1803)	Clausilie lisse
Discus rotundatus (Müller, 1774)	Hélice bouton
Helicella itala (Linnaeus, 1758)	Hélice des bruyères
Helicigona lapicida (Linnaeus, 1758)	Helice lampe
Helicodonta obvoluta (Müller, 1774)	Helice planorbe
Helix pomatia Linnaeus, 1758	Escargot de Bourgogne
Lauria cylindracea (da Costa, 1778)	Maillot ombiliqué
Macrogastra attenuata lineolata (Rossmässler, 1835)	Clausilie linéolée, Massue orientale
Merdigera obscura (Müller, 1774)	Bulime obscur
Monacha cantiana	Hélice du Kent
Monachoides incarnatus (Müller, 1774)	Moine des bois
Oxychilus cellarius	Zonite des caves
Oxychilus draparnaudi (Beck, 1837)	Grand zonite
Phenacolimax major	Semilimace des plaines
Pomatias elegans (Müller, 1774)	Cyclostome géant
Sphyradium doliolum (Bruguiere, 1792)	Maillot barillet
Tandonia rustica	Limace rustique
Vallonia pulchella (Müller, 1774)	Vallonie mignonne
Vitrina pellucida (Müller, 1774)	Vitrine transparente
Zonitoides nitidus	Zonite brillant, Luisantine des marais

Helicodonta obvoluta (Müller, 1774)

Cochlodina laminata (Montagu, 1803) et
Macrogastra attenuata lineolata (Rossmässler, 1835)

Monachoides incarnatus (Müller, 1774)

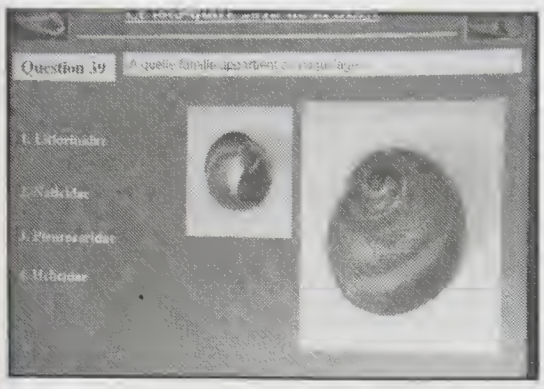
Vallonia pulchella (Müller, 1774)

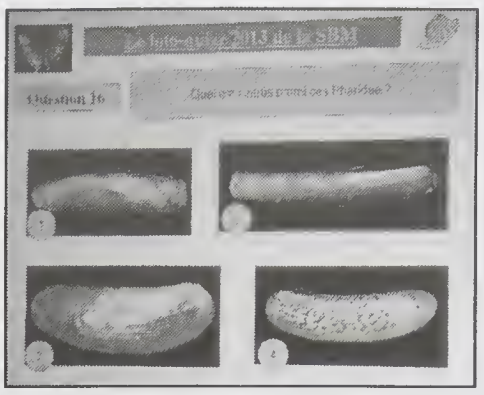


L'écho des réunions

Claude VILVENS

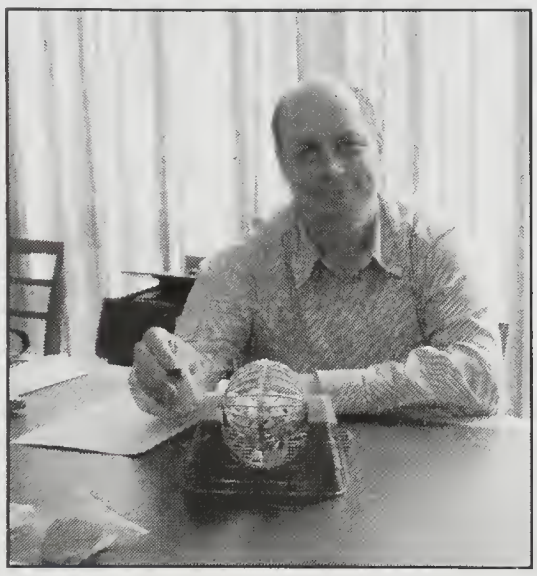
Réunion du 15 juin 2013 (CV et RH) → **Tout le monde : Le quiz de la SBM**

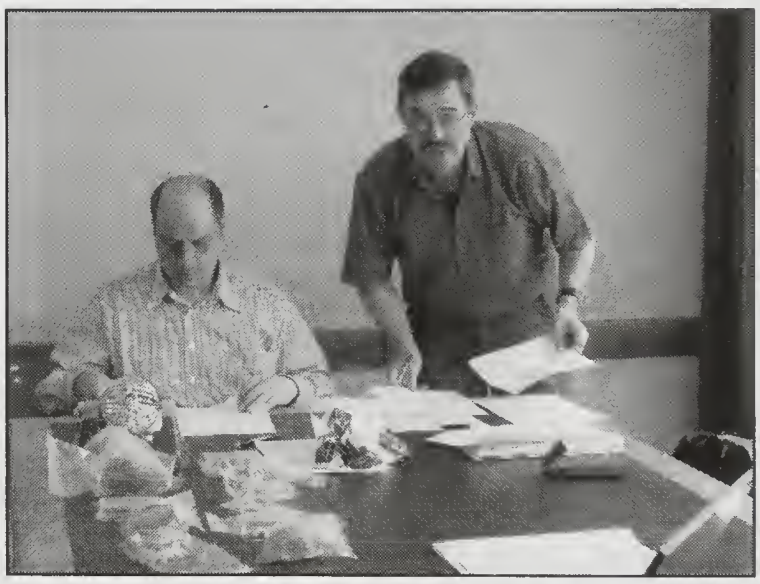




On commence à en prendre l'habitude : la dernière réunion avant les grandes vacances est ludique : une nouvelle édition du quiz de la SBM a donc eu lieu ce 15 juin 2013 ! A nouveau, la culture malacologique allait être récompensée : après une avalanche de questions, les plus perspicaces allaient se voir récompensés par une belle coquille ! Les questions avaient été soigneusement préparées par les membres du Conseil d'administration de la SBM, pour mémoire : Etienne Meuleman, Marc Alexandre, Annie Langleit, Roland Houart et Claude Vilvens).

La formule est restée celle de l'année passée : 90 questions ont été tirées dans un ordre aléatoire au moyen d'un tambour de lotto. Pour chaque numéro sorti, une diapositive proposait la question et les concurrents répondaient sur un formulaire. Une fois la réponse choisie, la bonne réponse était affichée (afin d'ajouter un aspect formatif au jeu ;-)). Les tirages s'effectuaient par tranche de 18, et le classement intermédiaire était annoncé, laissant la tension monter de plus en plus … Les photos qui suivent vous illustrent le déroulement des opérations …





Le podium des vainquurs : 1.Roni, 2.Christiane et 3.Johann

Quelques nouvelles publications

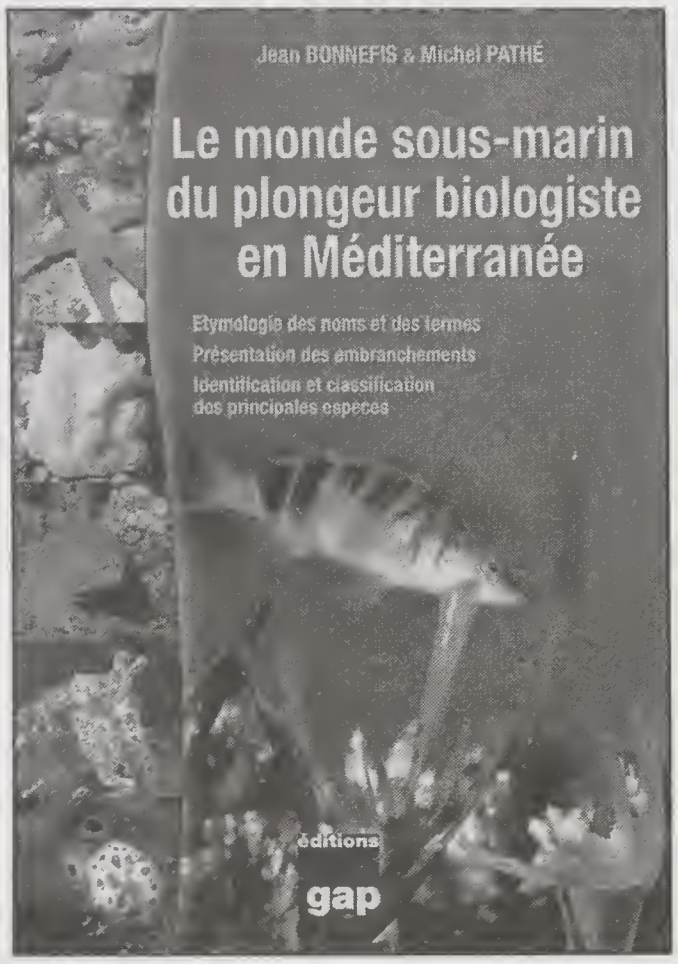
Claude VILVENS

En fait, pas forcément si nouvelles que ça mais …

Le monde sous-marin du plongeur biologiste en Méditerranée

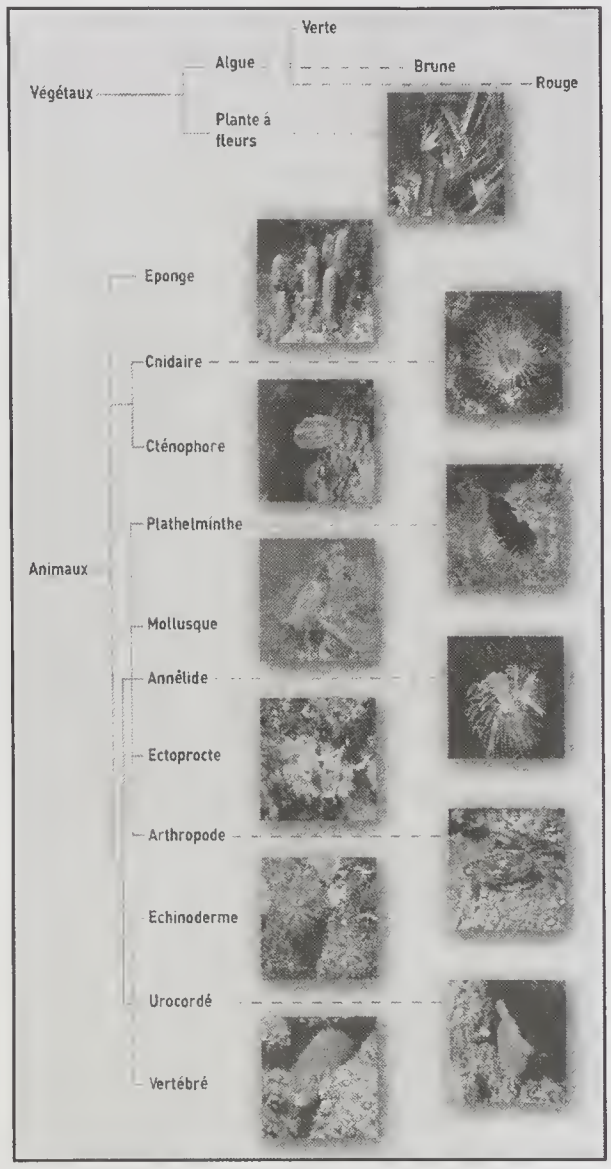
par **Michel Pathé et Jean Bonnefis**

Editions GAP / 1ère édition Mai 2010 ISBN : 978-2-7417-0409-6 Broché, 320 pages – illustrations couleurs 16,5 x 24,2 cm	**Prix :** 25 EUR Disponible sur le site http://www.editions-gap.fr



Il n'est pas question ici que de mollusques, bien sûr. Mais ce livre, que j'ai découvert par hasard à la boutique de l'Aquarium de La Rochelle, dresse un panorama somptueux des espèces animales et végétales de Méditerranée. Chaque embranchement est présenté avec ses caractéristiques (anatomie, fonctions vitales, habitat), sa systématique en classes et ordres et même une synthèse "mots clés à retenir", tout ceci avec deux constantes :

- tout terme scientifique ou technique est expliqué immédiatement en bas de page (avec son étymologie) – donc, pas besoin de bondir dans un glossaire en fin de volume;
- tous les groupes sont illustrés de splendides illustrations en couleur représentant les espèces évoquées dans leur milieu – un travail immense réalisé sans aucun doute au cours de très nombreuses plongées



Les Lieux les plus visités sont le Roussillon, le Var, Marseille, les Alpes Maritimes, La Ciotat, Saint Tropez, Saint Raphaël, la Corse, la Côte d'Azur en général, le Languedoc, et aussi Gênes et Monaco.

Afin de juger de la somme d'informations disponibles, voici le sommaire :

Chap. I Le milieu marin	Chap. X Le groupe des Lophophoriens
Chap. II La plongée	Chap. XI Les Mollusques
Chap. III Les végétaux	Chap. XII Les Crustacés
Chap. IV Les Spongiaires	Chap. XIII Les Echinodermes
Chap. V Les Cnidaires	Chap. XIV Les Urocordés
Chap. VI Les Cténophores	Chap. XV Les Vertébrés
Chap. VII Les Plathelminthes	Chap. XVI Les adaptations à la vie sous-marine
Chap. VIII La fonction de reproduction	Chap. XVII Les associations
Chap. IX Les Annélides - Les Echiuriens	Chap. XVIII La nutrition

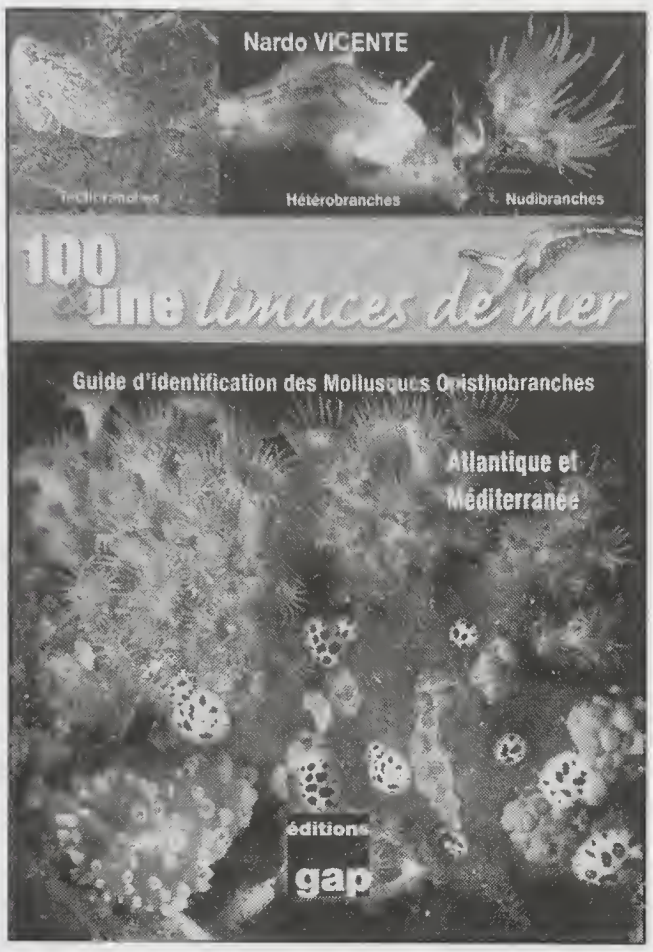
Celivre constitue le complément illustré idéal au livre de Lecointre et Le Guyader sur la systématique du monde vivant qui contient uniquement des dessins. Magnifique !

Claude Vilvens

100 et une limaces de mer

par **Nardo Vicente**

Editions GAP / 1ère édition Janvier 2008 ISBN : 9782741703532 Broché, 192 pages avec illustrations couleurs 16,5 w 24,2 cm	**Prix :** 23 EUR Disponible sur le site http://www.editions-gap.fr



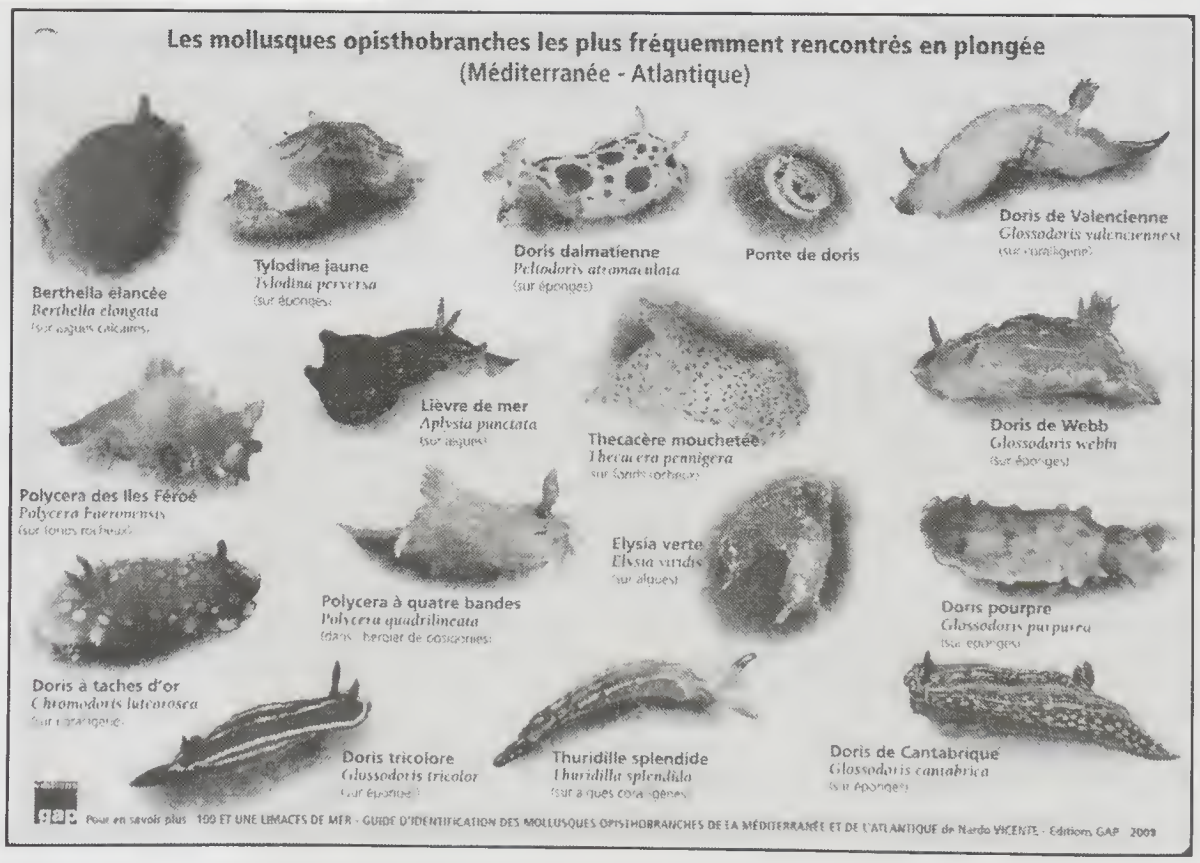
Bien sûr, la majorité d'entre eux n'ont pas de coquilles – mais que ces mollusques marins sont beaux ☺ ! Ils présentent une grande variété de formes, de couleurs et d'ornementations qui en font de véritables bijoux de la nature qui peuplent les divers milieux, depuis le rivage jusqu'aux limites du plateau continental.

Ce livre, à priori destinés aux plongeurs mais en fait intéressant pour tout malacologue, nous emmène donc chez les opisthobranches de l'Atlantique et de Méditerranée. Parmi les 128 espèces décrites dans cet ouvrage, 78 d'entre elles sont communes aux deux façades maritimes, d'autres propres à chacune d'elles, et enfin certaines proviennent de l'Indo-pacifique par le canal de Suez.

On trouve ici à la fois

- la systématique : les tectibranches (16 espèces traitées), les hétérobranches (18 espèces traitées) et les nudibranches (91 espèces traitées)
- l'éthologie : mode de vie, milieux de vie, reproduction, moyens de défense, alimentation.

L'ouvrage est accompagné d' une plaquette immergeable représentant les espèces les plus courantes :



Ce livre a remporté le Prix du meilleur Guide du monde sous-marin au Festival Mondial de l'Image Sous-Marine 2008 à Antibes. Il le mérite bien !

Claude Vilvens

Merveilleux crabes
- 101 histoires pour un éloge de la biodiversité

par **Catherine Vadon**

Editions Belin / 2013 ISBN 978-2-7011-5414-5 Broché, 176 pages avec illustrations couleur 24 x 24 cm	**Prix :** 29.50 EUR Disponible sur le site http://www.editions-belin.com

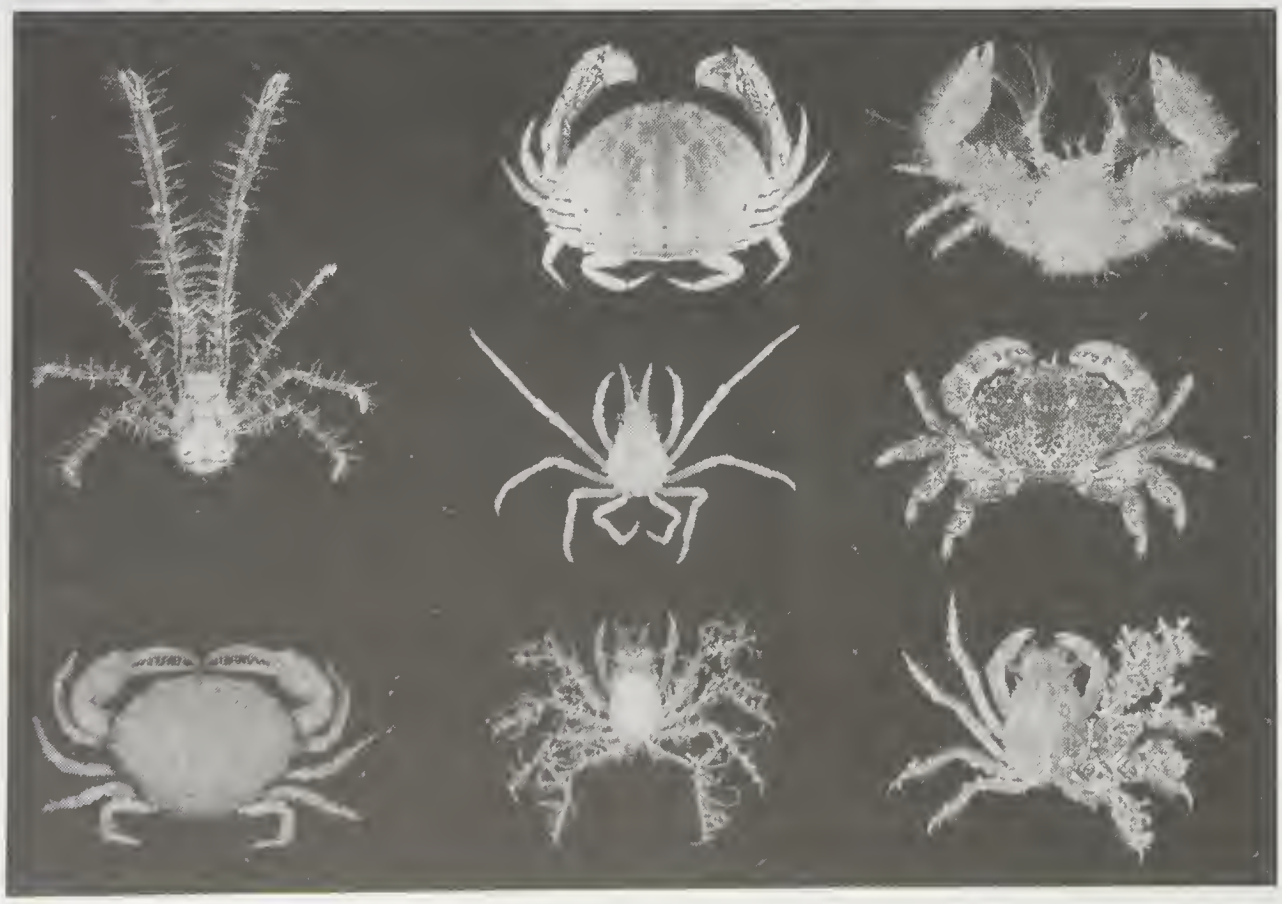
Je suis au courant : les crabes ne sont pas des mollusques ;-) Mais est-ce une raison pour ne vous parler de ces merveilles de la nature que sont les crabes, arthropodes omniprésents dans toutes les mers du globe ? Nous les connaissons par les tourteaux, araignées de mer, étrilles, mais il en est bien d'autres.

Il existe 7000 espèces différentes dans le monde, mesurant de quelques millimètres à près de 4 mètres d'envergure. Ils occupent des milieux aussi divers que les abysses, les récifs coralliens, dans les arbres ou même en montagne, en eau de mer ou en eau douce.

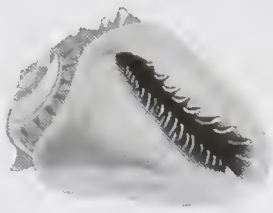
L'intérêt de ce livre est double :

- d'une part, de magnifiques photos ou des reproductions de planches anciennes permettent de visualiser l'incroyable diversité de ces animaux aux formes et aux couleurs si diverses;
- d'autre part, on nous raconte dans ce livre 101 histoires de crabes : elles concernent la biodiversité, l'exploration des mondes marins, la pêche, les légendes, etc

L'auteur, Catherine Vadon est maître de Conférences au Muséum national d'Histoire naturelle de Paris. Elle a participé à plusieurs campagnes océanographiques dans le cadre de missions d'inventaire et d'étude des faunes profondes, décrochant un doctorat avec une thèse portant sur les crabes des herbiers de posidonies. Après un passage par le laboratoire des Invertébrés marins et Malacologie, elle est aujourd'hui affectée à la Grande Galerie de l'Évolution où elle monte des expositions, participe à des émissions de radio ou de télévision. Elle est l'auteur de plusieurs livres, notamment pour les jeunes ("Le monde lumineux des océans", "Pieuvres, seiches et calmars", "Les méduses, ces étranges animaux" et "Extraordinaires poissons de mer").



Claude Vilvens



Nous avons reçu

Etienne MEULEMAN

LES NATURALISTES DE LA HAUTE LESSE

(Belgique)
N°270, mars - avril 2013

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LES NATURALISTES DE LA HAUTE LESSE

(Belgique)
N°271, mai - juin 2013

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LES NATURALISTES BELGES

(Belgique)
Vol. 94, N°1, janvier – avril 2013

Un article de G. Lamotte sur l'invasion massive de l'huître japonaise *Crassostrea gigas* (Thunberg, 1793) sur la côte belge.

GLORIA MARIS

(Belgique néerlandophone)
Vol. 52 N°1-2, janvier 2013

1. *R. Houart, K. Fraussen. & J.-P. Barbier*
   Description of a new species of *Lataxiena* (Gastropoda: Muricidae) from India
2. *E. Rolán & R. Fernández-Garcés*
   A new name for *Cerithiopsis infrequens* Rolán, Espinosa & Fernández-Garcés, 2007 non C.B. Adams, 1852
3. *M. Kovalis*
   Clathrotellina tessellata in the Gulf of Aqaba
4. *B. Almón Pazos, J. Pérez Dieste & J.E. Trigo*
   New contributions on *Cumanotus cuenoti* Pruvot-Fol, 1948 and *Cumanotus beaumonti* (Eliot, 1906) (Gastropoda: Flabellinidae) in the Iberian Peninsula
5. *C. Vos*
   Overview of the Tonnidae (Mollusca: Gastropoda) in Chinese waters
6. *D. Monsecour & L. Segers*
   Cassis fimbriata (Quoy & Gaimard, 1833): easy to tell apart?

GLORIA MARIS

(Belgique néerlandophone)
Vol. 52, N°3-4, avril 2013

1. *E. Rolán & F. Swinnen*
   A new *Circulus* species (Gastropoda, Rissoidea) from Senegal
2. *A. D. P. Van Peursen*
   Nadere informatie over de verspreiding van *Corbicula*'s in Europa en in België en Nederland in het bijzonder
3. *K. Fraussen & K. Van Laethem*
   The genus *Engina* Gray, 1839 (Gastropoda: Buccinidae) from Oman with description of a new species
4. *M. Herrmann & A.M. Dekkers*
   A dark colour form of *Vexillum balteolatum* (Reeve, 1844) (Gastropoda: Costellariidae) from several locations in the Philippines
5. *A. M. Dekkers*
   Description of an almost white new species of *Vexillum* (Gastropoda: Costellariidae) from the Philippines
6. *J. Wuyts, M. Hansen, N. Severijns, S. Debruyne, F. De Winter, F. Jacobs, D. De Boe & M. Overweg*
   Mollusken in de omgeving van Bevercé
7. *K. Monsecour & A.M. Dekkers*
   Two New species of *Mitrella* (Mollusca: Gastropoda: Columbellidae) from the Philippines

GLORIA MARIS

(Belgique néerlandophone)
Vol. 52, N°5, ma i 2013

1. *M. A. Snyder*
   One new, one newly placed, and two old *Granulifusus* (Gastropoda: Fasciolariidae)

2. *E. Rolán & F. Swinnen*
   A new species of *Gibbula* (Prosobranchia, Trochidae) from Angola

3. *E. Rolán & S. Gori*
   A new species of the genus *Leucorhynchia* (Gastropoda, Turbinidae) from São Tomé Island, Guinean Gulf, West Africa

4. *E. Rolán & S. Gori*
   Two new *Cerithiopsis* species from São Tomé island (Prosobranchia, Cerithiopsidae)

5. *A. M. Dekkers*
   Description of *Semicassis dougthorni* sp. nov. (Gastropoda: Cassidae) from Australia and Indonesia

6. *R. De Prins*
   Lioconcha kovalisi, a new species from the Red Sea, situated within the *Lioconcha ornata* (Dillwyn, 1817) complex (Bivalvia: Veneridae)

7. Note with regard to Gloria Maris 52(1-2)

XENOPHORA

(France)
N° 142 avril – mai – juin 2013

Le coin du Débutant par G. Jaux
Dernières trouvailles aux Fidji par Th. Vulliet
Découverte de *Conus barthelemyi* à Madagascar par F. Goutal
Une étonnante variabilité par P. Bail
Note sur la présence de *Indothais blanfordi* (Melvill, 1893)
au Sénégal et en Guinée-Bissau par R. Houart et J-L. Delemarre
Hommage à notre Ami Michel Gueguen par D. Gratecap
Conus lamberti : une rectification
Curveulima dautzenbergi (Pallary, 1900) en Bretagne
par C. Delongueville et R. Scaillet
Une classification généalogique des Xenophoridae
par N. Laurenceau
Coquillages des Îles Marquises par S. Pineau et J-P. Duboc
Reçu au Club par P. Bail
Informations du MNHN
Echo...quillages
Micro-mollusques par S. Aiken

SPIRULA
(Pays-Bas)
N° 390 janvier – février I 2013

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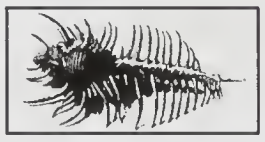

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PETER W.W. SCHULTZ, D-Hemdingen & MARKUS HUBER, CH-Zürich

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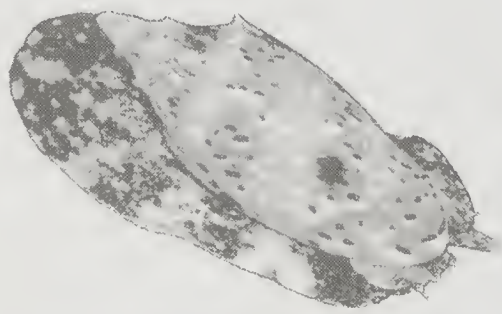

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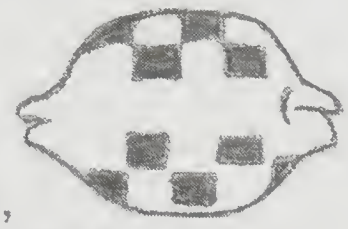

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Grandes marées de l'année 2013

Christiane DELONGUEVILLE et Roland SCAILLET

2013 est une année plus que médiocre en matière de grandes marées. La plus grande n'a qu'un coefficient de 109. Par contre, il y a beaucoup de grandes marées modestes tout au long de l'année et ce y compris en janvier et en décembre.

Coefficients (> 100) des pleines mers à Brest

(Les marées basses correspondantes sont donc particulièrement intéressantes à prospecter)

Janvier	Samedi 12	102 - 104
	Dimanche 13	106 - 106
	Lundi 14	104 - 102
Février	Dimanche 10	100 - 104
	Lundi 11	106 - 107
	Mardi 12	106 - 104
	Mercredi 13	101 - (97)
	Jeudi 28	100 - (99)
Mars	Lundi 11	(97) - 100
	Mardi 12	102 - 103
	Mercredi 13	103 - 101
	Mercredi 27	(96) - 100
	Jeudi 28	103 - 104
	Vendredi 29	105 - 104
	Samedi 30	102 - (99)
Avril	Vendredi 26	103 - 105
	Samedi 27	106 - 105
	Dimanche 28	104 - 101
Mai	Samedi 25	(99) - 102
	Dimanche 26	104 - 104
	Lundi 27	104 - 102
Juin	Lundi 24	102 - 104
	Mardi 25	105 - 104
	Mercredi 26	103 - 100
Juillet	Mardi 23	102 - 105
	Mercredi 24	107 - 108
	Jeudi 25	107 - 104
	Vendredi 26	100 - (95)
Août	Mercredi 21	103 - 106
	Jeudi 22	108 - 109
	Vendredi 23	108 - 105
	Samedi 24	101 - (96)
Septembre	Jeudi 19	101 - 104
	Vendredi 20	105 - 105
	Samedi 21	104 - 101
Octobre	-	-
Novembre	Lundi 4	(99) - 101
	Mardi 5	101 - 100
Décembre	Mardi 3	(98) - 101
	Mercredi 4	102 - 103
	Jeudi 5	102 - 100

Beaucoup de marées intéressantes auront lieu durant le week-end. Il est à espérer que les pêcheurs à pied seront plus respectueux de l'environnement que ce que nous avons pu observer l'année passée en Bretagne.

Conseils pour une marée réussie et soucieuse de l'environnement : Remettez toujours les pierres déplacées en bon ordre. Observez, photographiez et n'échantillonnez que le strict nécessaire. Soyez prudents et renseignez-vous sur les heures des marées à l'endroit où vous vous trouvez.

REFERENCE :

Annuaire des Marées pour l'année 2013 - Ports de France - Métropole - Tome 1 - SHOM (Service Hydrographique et Océanographique de la Marine) - *Paris - 257 p.*

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SOCIETE BELGE DE MALACOLOGIE

The extensive Indo-Pacific radiation of *Phaenomenella* Fraussen & Hadorn, 2006 (Gastropoda: Buccinidae) with description of a new species

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KEYWORDS. Gastropoda, Buccinidae, *Phaenomenella*, Indo-Pacific, Taiwan, new species.

ABSTRACT. The genus *Phaenomenella* is briefly reviewed. *Phaenomenella vexabilis* sp. nov. is described from deep-water off Taiwan. It is compared with *P. mokenorum* Fraussen, 2008 and *P. inflata* (Shikama, 1971). The shell shape and the spiral sculpture serve to distinguish the single known broken shell from all other known *Phaenomenella* species.

INTRODUCTION

The genus *Phaenomenella* Fraussen & Hadorn, 2006 was described to accomodate *Manaria inflata* Shikama, 1971 together with other species sharing the peculiar, angulated or pagodoid shape of the apical teleoconch whorls. The radula morphology proves also that genus to belong to Pisaniinae.

Quite early after the description of the genus new species have turned up from the ANTUN BRUUN expedition to the Andaman Sea (Fraussen, 2008) and from commercial trawlings by Vietnamese fishermen (Fraussen & Stahlschmidt, 2012). In addition two further species, described as *"Manaria" callophorella* Fraussen, 2004 and *Nassaria cirsinnoides* Fraussen, 2004, were also recognized to belong to *Phaenomenella* (Fraussen & Stahlschmidt, 2012).

The growing knowledge of the biodiversity and the questions regarding the number of undescribed species (Bouchet et al, 2008) are well reflected in *Phaenomenella* and this genus was one of the examples given to estimate that the possible number of buccinid species may be twice as large as the already described ones, if not triple (Fraussen, 2012: 21-22, fig. 2).

In the present paper we add one more species to the Indo-West Pacific fauna: *Phaenomenella vexabilis* sp. nov. from Taiwan.

Material and Methods

Part of the material reported on in the present study originates from the TAIWAN 2000, 2001 and 2002 expeditions to Taiwan; this material is, unless otherwise stated, deposited in MNHN.

Abbreviations

ANSP: Academy of Natural Science, Philadelphia, U.S.A.
KF: collection Koen Fraussen, Aarschot, Belgium.
MNHN: Muséum national d'Histoire naturelle, Paris, France.
NMMBM: National Museum of Marine Biology and Aquarium, Mollusca, Checheng, Taiwan.
NMNS: National Museum of Natural Science, Taichung, Taiwan.
NNT: collection Dr. Nguyen Ngoc Thach, Nha Trang, Vietnam.
CP: chalut à perche (beam trawl).
dd: empty shell, dead collected.

SYSTEMATICS

Family **BUCCINIDAE** Rafinesque, 1815

Genus ***Phaenomenella*** Fraussen & Hadorn, 2006: 104.

Type species: *Manaria* (?) *inflata* Shikama, 1971: 31, pl. 3, figs. 7-8 (Taiwan).

Range. Mainly known from around Taiwan and the adjacent East and South China Seas. One species from eastern Indian Ocean (Andaman Sea).

Remarks. *Phaenomenella* species are characterized by their broader than high protoconch with flattened tip and by a rather sharp angulation just above the suture with the subsequent whorl. The upper teleoconch whorls are shouldered, a shape which is accentuated by the axial knobs or ribs, or have the appearance of being shouldered by the presence of obviously convex axial ribs. The axial ribs on the first teleoconch whorls are slightly opisthocline, rather diagonally orientated and gradually becoming more longitudinally orientated on the abapical whorls (if still present). The radula has tricuspid outer teeth (Fraussen & Hadorn, 2006: 104, 109).

The variability in the genus is moderately high (Tabel 1). The general shape ranges from semi-oval to fusiform, the shape of the spire ranges from moderately high to elongate and from pagodoid to conical (laterally flattened whorls); the shape of the whorls ranges from sharply angulated over shouldered to rather convex (but within a species it may vary from angulated upper spire whorls to convex at the body whorl). The spiral sculpture may consist of fine primary spiral cords to alternating primary and finer secondary spiral cords (but the presence of secondary spiral cords may vary within a species: from absent to showing some fine traces) with a single species having broad, flattened spiral cords (*P. mokenorum* Fraussen, 2008). The axial sculpture may vary from being present on the uppermost spire whorls only to being present on all whorls including the body whorl. The shape of the protoconch, however, is together with the slightly diagonally orientated axial ribs on the upper spire whorls a constant feature.

Manaria Smith, 1906 (type species: *Manaria thurstoni* Smith, 1906, by original designation) differs by having a smaller protoconch consisting of a slightly higher number of whorls with a small naticoid tip; by the usually wealky convex upper spire whorls; by the simple outer lip, and by a cominelloid radula.

Eosipho Thiele, 1929 (type species: *Chrysodomus (Sipho) smithi* Schepman, 1911, by original designation) differs by having smoother whorls with flattened spiral cords with axial sculpture on the uppermost whorls only; fine grooves on top of the spiral cords, and by having a cominelloid radula.

Included species

Phaenomenella angusta Fraussen & Hadorn, 2006
Phaenomenella callophorella (Fraussen, 2004)
Phaenomenella cirsiumoides (Fraussen, 2004)
Phaenomenella inflata (Shikama, 1971)
Phaenomenella insulapratasensis (Okutani & Lan, 1994)
Phaenomenella mokenorum Fraussen, 2008
Phaenomenella thachi Fraussen & Stahlschmidt, 2012
Phaenomenella venusta Fraussen & Stahlschmidt, 2012
Phaenomenella vexabilis sp. nov.

Phaenomenella angusta Fraussen & Hadorn, 2006
Figs 8, 13

Phaenomenella angusta Fraussen & Hadorn, 2006: 106-108, figs. 6-9, 20-21.

Type locality. South China Sea, Taiwan, TAIWAN 2000, stn CP27, 22°13.3'N, 120°23.5'E, 326 m.

Remarks. *Phaenomenella angusta* is characterized by having a rather thin shell with a slender, fusiform shape; strongly convex teleoconch whorls with a slightly shouldered appearance accentuated by the axial ribs; a fine spiral sculpture consisting of alternating fine (primary) and finer (secondary) spiral cords; axial sculpture on the spire whorls only and a thin, slightly expanded outer apertural lip.

Phaenomenella callophorella (Fraussen, 2004)
Fig. 9

"Manaria" callophorella Fraussen, 2004: 86-88, figs. 5-10, 13.

Type locality. East China Sea between Japan and Taiwan, 800-900 m deep, trawled by fishermen from Kyushu, Japan.
Transfered to *Phaenomenella* by Fraussen & Stahlschmidt (2012: 86).

Remarks. *Phaenomenella callophorella* is characterized by the broadly fusiform shell with shouldered, rather tabulated teleoconch whorls which give the shell a rather pagodoid shape; a fine spiral sculpture consisting of sharp primary spiral cords with broad interspaces; occasional presence of traces of minute, obscure secondary spiral cords on the adapical part of the body whorl; the presence of axial sculpture (running from suture to suture on the spire whorls and running from suture to the periphery at the body whorl) on all whorls and a thick, corneous, yellowish-brown periostracum which may be hirsute on top of the axial sculpture.

Phaenomenella cirsiumoides (Fraussen, 2004)
Fig. 10

Nassaria cirsiumoides Fraussen, 2004: 85-86, figs. 1-4, 11-12.

Type locality. East China Sea, between Japan and Taiwan, 800-900 m deep, trawled by fishermen from Kyushu, Japan.
Transfered to *Phaenomenella* by Fraussen & Stahlschmidt (2012: 86).

Remarks. *Phaenomenella cirsiumoides* is characterized by having a moderately broad, rather thin shell; an angulated shoulder on all whorls, accentuated by the axial ribs; a fine spiral sculpture consisting of sharp primary spiral cords with broad

interspaces; in having secondary spiral cords on the adapical part of the whorls only; axial sculpture (knobs) present on all whorls; a thin, slightly expanded outer lip and a rather smooth, yellowish-brown periostracum.

Character	*P. inflata*	*P. insulapratasensis*	*P. cirsiumoides*	*P. calloporella*	*P. angusta*	*P. thachi*	*P. venusta*
General shape	semi-oval	semi-oval	semi-oval	fusiform, slender	fusiform, slender	fusiform, slender	fusiform, slender
Spire	moderately high	low rather conical	moderately high	rather elongate pagodoid	elongate	elongate	Elongate
Upper spire whorls	angulated	angulated	angulated	shouldered	shouldered	rather convex	weakly angulated
Subsutural slope	convex	convex	concave	steep	convex	convex	rather convex
Whorls	weakly convex	laterally flattened	angular	strongly convex	convex	convex	Convex
Primary spiral cords	fine 1st whorl: Unknown 3rd whorl: 6-7 penultimate: 8-13	fine 1st whorl: 7 3rd whorl: 9-10 penultimate: 8-12	sharp 1st whorl: 6 3rd whorl: 8-9 penultimate: 9-10	sharp 1st whorl: 5-6 3rd whorl: 6 penultimate: 10	fine 1st whorl: 5 3rd whorl: 6 penultimate: 8-10	fine 1st whorl: Unknown 3rd whorl: 8 penultimate: 9	fine 1st whorl: 6 3rd whorl: 7-8 penultimate: 13
Secondary spiral cords (nr. per interspace)	some traces 1	none	occasionally 1	some traces 1	on whorl and base 1	on whorl and base 1	occasionally (growing quickly)
Spiral interspaces	broad, on base narrow	moderately broad	broad	moderately narrow	broad	broad	moderately broad
Siphonal canal	medium	short	medium	medium	medium	medium	Medium
outer lip	expanded lip	moderately thick varix	expanded lip	moderately thick	expanded lip	thick varix	thick varix
Periostracum	smooth	smooth	smooth to velvety	smooth to velvety	smooth	unknown	Unknown
Range	Taiwan	South China Sea	East China Sea	East China Sea	East China Sea	South China Sea Vietnam	South China Sea Vietnam

Table 1. Characteristics of *Phaenomenella* species.

Phaenomenella inflata (Shikama, 1971)
Figs 3, 11

Manaria inflata Shikama, 1971: 31, pl. 3, figs. 7-8.

Type locality. Taiwan.
Remarks. *Phaenomenella inflata* is characterized by the moderately broad, rather thin shell with a semi-oval shape; a strongly angulated shoulder on the upper spire whorls, accentuated by the axial ribs; a fine spiral sculpture consisting of alternating fine (primary) and finer (secondary) spiral cords; by the presence of axial sculpture on the upper spire whorls only; a thin, slightly expanded outer apertural lip and a rather smooth, yellowish-brown periostracum.

Phaenomenella insulapratasensis
(Okutani & Lan, 1994)
Figs 5, 12

Aulacofusus insulapratasensis Okutani & Lan, 1994: 1-3, figs. 1-4.

Type locality. Pratas Islets (Reef), South China Sea, 300 m deep.

Remarks. *Phaenomenella insulapratasensis* is characterized by the inflated, rather heavy shell with a broad, oval shape; a strongly angulated shoulder on the upper spire whorls, accentuated by the axial ribs; fine spiral cords of same strenght; the presence of axial sculpture on the upper spire whorls only; a thick outer apertural lip which is elegantly pinched where connected to preceeding whorl and a rather smooth, yellowish-brown periostracum.
The species is known from the South China Sea off Vietnam and from Taiwan (3 empty shells from SW coast of Taiwan, TAIWAN 2002: Stn CP166, 22°23.8'N, 120°15.3'E, MNHN).

Phaenomenella mokenorum Fraussen, 2008
Figs 4, 14

Phaenomenella mokenorum Fraussen, 2008: 48-50, fig. 1-4.

Type locality. Andaman Sea, E-SE Phuket Island, ANTON BRUUN stn 17, 07°40'N, 97°08'E, 512-503 m.

Remarks. *Phaenomenella mokenorum* is characterized by the rather thin and fragile shell with a

semi-oval shape with high conical spire; laterally flattened upper spire whorls; a weak spiral sculpture consisting of broad but weak spiral cords with narrow interspaces; the presence of axial sculpture on the upper spire whorls only; a rather smooth body whorl; a thin outer apertural lip and a rather velvety, greenish brown periostracum.

Phaenomenella insulapratasensis has similar laterally flattened upper spire whorls but differs by the broader shape with much shorter spire and the finer spiral cords.

Phaenomenella thachi

Fraussen & Stahlschmidt, 2012

Fig. 6

Phaenomenella thachi Fraussen & Stahlschmidt, 2012: 87-88, fig. 1-5.

Type locality. South China Sea, Vietnam, Khanh Hoa Province, Nha Trang, trawled by local fishermen, 150-200 m deep.

Remarks. *Phaenomenella thachi* is characterized by the rather solid shell with fusiform shape, the big prelabral varix running from suture down to the lower part of the base. The prelabral lip has a shape one may also recognize in some species belonging to *Nassaria* Link, 1807 such as *Nassaria visayensis* Fraussen & Poppe, 2007 (type locality: Philippines, Aliguay, trawled betwen 60 and 120 m deep) and the fossil *N. wanneri* (Tesch in Wanner, 1915) (type locality: Indonesia, Timor, between Noil and Noil Taimetan, Pliocene). *Nassaria*, however, differs in many aspects such as the protoconch morphology and the radula characters, to mention the most important ones.

Phaenomenella angusta has a similar shape and sculpture but differs by the slightly slenderer shape, the simple suture (instead of a shallow canaliculation), the slightly lower number of primary spiral cords on the upper spire whorls (6 instead of 8), the lower number of axial ribs, and the weaker prelabral varix.

Phaenomenella venusta differs by the slenderer shape with narrower aperture, the secondary spiral cords which grow quickly to the same strenght as the primary ones, giving the appearance as if the sculpture consists of cords of equal strenght, the axial sculpture which is weak along the penultimate whorl and absent on the body whorl, and the much smaller adult size.

Phaenomenella venusta

Fraussen & Stahlschmidt, 2012

Fig. 7

Phaenomenella venusta Fraussen & Stahlschmidt, 2012: 88-90, fig. 6-10.

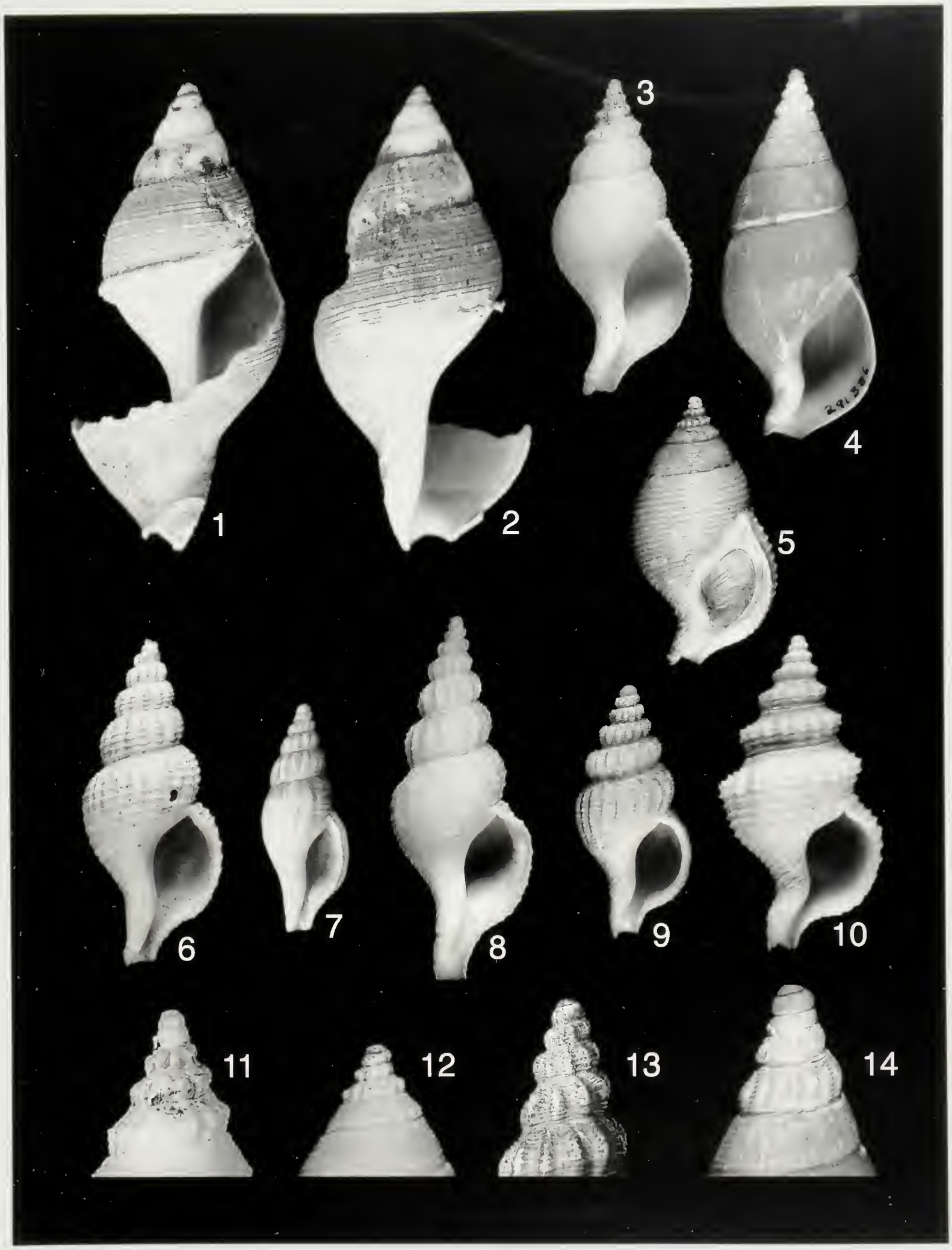
Type locality. South China Sea, Vietnam, Khanh Hoa Province, Nha Trang, trawled by local fishermen, 150-200 m deep.

Remarks. *Phaenomenella venusta* is characterized by the narrow aperture, the secondary spiral cords which grow quickly to reaching a similar strenght as the primary ones and give the appearance as if the sculpture consists of cords of equal strenght, the absence of axial sculpture on the body whorl and the small adult size.

Phaenomenella thachi differs by the broader shape with wider aperture, the spiral sculpture consisting of cords of clearly unequal strenght, the stronger axial sculpture which is still present on the body whorl and the larger adult size.

Figures 1-14

1-2. *Phaenomenella vexabilis* sp. nov., holotype, 45.3 mm, Taiwan, off Tashi, TAIWAN 2001 stn CP111, 24°52.2'N, 122°04.3'E, 540-700 m, NMMBM008154; **3.** *Phaenomenella inflata* (Shikama, 1971), 33.8 mm, Taiwan, off Suao, dredged, 190 m, KF-0524; **4.** *Phaenomenella mokenorum* Fraussen, 2008, holotype, 55.6 mm, Andaman Sea, E-SE off Phuket Island, ANTON BRUUN stn 17, 07°40'N, 97°08'E, 512-503 m, ANSP 291386; **5.** *Phaenomenella insulapratasensis* (Okutani & Lan, 1994), 26.0 mm, off Vietnam, trawled by fishermen, KF-3260; **6.** *Phaenomenella thachi* Fraussen & Stahlschmidt, 2012, holotype, 34.4 mm, South China Sea, Vietnam, Khanh Hoa Province, off Nha Trang, trawled by local fishermen, 150-200 m deep, MNHN-25084; **7.** *Phaenomenella venusta* Fraussen & Stahlschmidt, 2012, paratype 2, 22.2 mm, South China Sea, Vietnam, Khanh Hoa Province, off Nha Trang, trawled by local fishermen, 150-200 m deep, coll. NNT; **8.** *Phaenomenella angusta* Fraussen & Hadorn, 2006, paratype 2, 34.6 mm, between Japan and Taiwan, 800-900 m deep, trawled by fishermen from Kyushu, Japan, KF-3459; **9.** *Phaenomenella callophorella* (Fraussen, 2004), paratype 4, 19.9 mm, South China Sea, Helen Bank, 500 m deep, KF-2833; **10.** *Phaenomenella cirsiumoides* (Fraussen, 2004), paratype 4, 31.4 mm, between Japan and Taiwan, 800-900 m deep, trawled by fishermen from Kyushu, Japan, KF; **11.** Apex of *Phaenomenella inflata* (Shikama, 1971), same as fig. 3; **12.** Apex of *Phaenomenella insulapratasensis* (Okutani & Lan, 1994), off Vietnam, trawled by fishermen, KF-1495; **13.** Apex of *Phaenomenella angusta* Fraussen & Hadorn, 2006, holotype, Taiwan, TAIWAN 2000 stn CP27, 22°13.3'N, 120°23.5'E, 326 m, NMNS-5070-001; **14.** Apex of *Phaenomenella mokenorum* Fraussen, 2008, holotype, same as Fig. 14.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Phaenomenella vexabilis sp. nov.
Figs 1-2

Type material. Holotype, 45.3 mm, TAIWAN 2001, stn CP111, NMMBM-008154.

Type locality. Taiwan, Tashi, TAIWAN 2001, stn CP111, 24°52.2'N, 122°04.3'E, 540-700 m.

Range. Only known by the broken (most probably by crab-attack) holotype.

Description. Shell rather large for genus, 45.3 mm in length, thin, fragile, white, broadly fusiform with moderately high spire, whorls convex, siphonal canal short.
Protoconch missing, apex eroded, resulting in shape still suggesting a big apex; subsutural concavity visible. Remaining teleoconch whorls 6 3/4 in number, septum included. Suture deep, forming narrow canal.
Penultimate whorl with 22 spiral cords: 9 adapical rather broad spiral cords, equally spaced, except for 2 slightly finer subsutural cords; 13 abapical spiral cords alternating 1 broad and 3 finer. Interspaces narrow. Most part of body whorl missing, base with numerous equally spaced spiral cords.
Axial sculpture eroded on apex, absent on remaining teleoconch whorls.
Aperture semi-oval, narrow. Columella bently curved, callus thin, smooth. Outer lip broken, thin, without internal lirae. Siphonal canal short, broad, widely open.
Periostracum greenish, well adherent, rather velvety, forming numerous fine incremental lamellae in spiral interspaces.
Animal, radula and operculum unknown.

Comparison. *Phaenomenella vexabilis* sp. nov. is characterized by the fine spiral sculpture with alternating 1 broad and 3 fine spiral cords near the periphery.
The generic placement of this species is based on conchological resemblance with *P. mokenorum* (shape) and *P. inflata* (identical periostracum). The apical sculpture which is characteristic for the genus (a strongly angulated shape) cannot be proved with certainty, but the shape of the eroded apex is very close to similary eroded specimens of *Ph inflata*.
Phaenomenella mokenorum from NE Indian Ocean is similar in shape but differs by having a slenderer shape with a higher spire, broader spiral cords with narrow interspaces and a straight columella.
Phaenomenella inflata has an identical periostracum and fine axial lamellae in the spiral interspaces but differs by the regular spiral sculpture, a rather conical spire and a smaller adult size.
Etymology. *Phaenomenella vexabilis* sp. nov. is named after the Latin expression *vexabilis* (adj.), meaning "being maltreated" or "exposed to cruelty", which refers to the badly broken shell of the single specimen known yet, witness of a fatal crab attack.

Acknowledgments

We are grateful to Philippe Bouchet, Virginie Héros and Philippe Maestrati (Muséum national d'Histoire naturelle, Paris, France) for making material available for study, to Roland Houart (Belgium) for reading and correcting the manuscript and to David Monsecour (Belgium) for correcting the English text.

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Three tiny new costellarids (Gastropoda: Costellariidae) from the eastern Caroline Islands

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KEYWORDS. Eastern Caroline Islands, Kosrae, Pohnpei, Gastropoda, Costellariidae, Vexillum (Pusia) n. sp., Thala n. sp.

ABSTRACT. *Vexillum (Pusia) oteroi* new species and *Thala turneri* new species are described from the islands of Kosrae and Pohnpei, and *Vexillum (Pusia) beitzi* is described from Kosrae. A list of other Costellariidae collected in the Caroline Islands and a short biogeographical note is given.

INTRODUCTION

The Caroline Islands, together with Mariana and Marshall Islands form Micronesia and consist of five fringing or barrier reef-enclosed high islands, 43 atolls or low coral islands, and numerous shallow sunken atolls and approximately eight banks spanning some 3260 km from the Palau Archipelago in the west to Kosrae in the east.

The Carolines are an archipelago in the northwestern Pacific Ocean, formed by 963 islands, mostly of volcanic origin, and small atolls and extend from 132° to 163° East with a prevailing direction W-E. From an administrative point of view, the Carolines are divided into the states of Palau and the Federated States of Micronesia [FSM], that includes the states of Yap, Chuuk, Pohnpei and Kosrae.

Faunistically, the Carolines can be conveniently divided into three regions: the western Carolines from Tobi to Fais (Republic of Palau and Western Yap State of the FSM); the eastern Carolines from Eauripik to Kosrae (Eastern Yap, Chuuk, Pohnpei and Kosrae State of FSM) and the isolated outpost of Kapingamarangi (Ponhpei State).

The Carolines consist entirely of tropical oceanic islands that rise steeply from the deep ocean floor with their upper slopes constantly bathed in warm and clear waters far from the influence of any continental coast. Oceanic conditions are almost quite uniform, with the equatorial current that flows from east to west in the northern Carolines and from west to east in the southern Carolines. Sea surface ranges from 27/28° C in February to 30° C in August while subsurface temperature generally remains above 26° C in the upper 100 m although periodically upwelling along the steep leeward walls of some reef may result in sudden drops of temperature (personal observation in Palau)(Myers 1999).

Kosrae, 162°59'E-05°19'N, an island of volcanic origin with a surface area of 109 square kilometers, lies about 590 km north of the equator, 5,000 km west of Hawaii and is the easternmost point of the archipelago. Kosrae is the third largest of Carolines and is called "The Sleeping Lady" because of the shape of one of its picturesque mountains. It is covered with dense tropical jungle and high volcanic peaks. The island is surrounded by very healthy fringing reefs, especially off the south coast, which slopes steeply into the blue depths. The coast alternates between sandy beaches and mangrove swamps (Segal 1989).

Pohnpei, 158°13'E-06°54'N, like Kosrae, is of volcanic origin, has a surface area of 345 square kilometers and is the capital of the Federated States of Micronesia. Called "The Garden Island" because everything is so lush and green, it lies about 3,500 km east of the Philippines and 660 km northeast of Kosrae. It is the second largest island in the archipelago. It is considered one of the wettest places on earth due to the rain that creates more than 40 rivers. The coral reefs all around the island form a vast lagoon, which is intersected by numerous channels that carry nutrients inside. These nutrients attract marine life and make Pohnpei one of the most varied marine lagoons in the Carolines. Most of the shoreline is covered by mangrove swamps (Ashby 1983).

The classical Darwin subsidence theory of atoll development, the volcanic island that subsides into the sea and leaves the reefs surrounding the island, is the best general explanation of the origin of these lagoons.The most common corals found are Acropora, Pocillopora and Porites (personal observation).

Material and methods

This faunal report is the result of investigating accumulations of dead shells and other animals (tanatocoenosis) collected by scuba in coralline habitat, in small sandy caves or sand patches and at the base of Acropora and Porites from a depth of 8.5 m to 40 m. Shell measurements are displayed by shell length, shell width and aperture length in millimeters.

Abbreviations

Repository

ANSP: Academy of Natural Sciences, Philadelphia, USA

Individual collections

DB: Doug Beitz, Kosrae Island, Caroline Islands
GP: Gianni Pellifroni, Porto Ceresio, Italy
HT: The late Hans Turner, Rovio, Switzerland
JLP: Jean Paul Lefort, Huahine, French Polynesia
RAS: Richard Salisbury, Meridian, Idaho, USA
SG: Sandro Gori, Livorno, Italy
MH: Manfred Herrmann,Rosdorf,Germany
IP: Ivan Perugia,Ravenna,Italy

SYSTEMATICS

Family **COSTELLARIIDAE** MacDonald, 1860
Genus ***Vexillum*** Röding 1798
Subgenus ***Pusia*** Swainson 1840
Type species by monotypy: *Mitra microzonias* Lamarck = *Vexillum* (*Pusia*) *microzonias* (Lamarck 1811). Caribbean, Recent.

Vexillum (Pusia) oteroi n. sp.
Figs 1-3

Type material. Holotype (Figs 1-3): Walung drop-off, Kosrae Island, Caroline Islands, 05°18'17''N-162°53'51''E, in sand in a small coral cave,13 November 2007, 33 m, collected by SG, ex SG collection, 3.2 mm x 1.4 mm x 1.4 mm. ANSP 451639.

Paratypes: Pehleng Pass, south ocean side drop-off, Pohnpei, Caroline Islands, 06°51'29"N-158°06'24"E, on sand in a small coral cave,17 November 2007, 40 m, collected by SG. Paratype 1. SG collection, 3.2 mm x 1.5 mm x 1.4 mm; paratype 2. SG collection, 3.2 mm x 1.5 mm x 1.5 mm; paratype 3. RAS collection, 3.0 mm x 1.3 mm x 1.3 mm; paratype 4. SG collection, 3.0 mm x 1.5 mm x 1.4 mm.
Walung drop-off, Kosrae Island, Caroline Islands, 05°18'17''N-162°53'51''E, in sand in a small coral cave, 13 November 2007, 33 m, collected by SG. Paratype 5. SG collection, 3.1 mm x 1.5 mm x 1.4 mm; paratype 6. SG collection, 3.0 mm x 1.5 mm x 1.4 mm; paratype 7. SG collection, 3.0 mm x 1.5 mm x 1.4 mm; paratype 8. SG collection, 3.0 mm x 1.5 mm x 1.4 mm; paratype 9. SG collection, 3.0 mm x 1.5 mm x 1.4 mm; paratype 10. SG collection, 3.2 mm x 1.5 mm x 1.5 mm.
South Trochus Sanctuary, Kosrae Island, Caroline Islands, 05°20'416''N-162°56'665''E, on sand, December 2008, 25 m, collected by DB. Paratype 11. SG collection, 3.1 mm x 1.5 mm x 1.4 mm.

Type locality. Kosrae Island, Caroline Islands

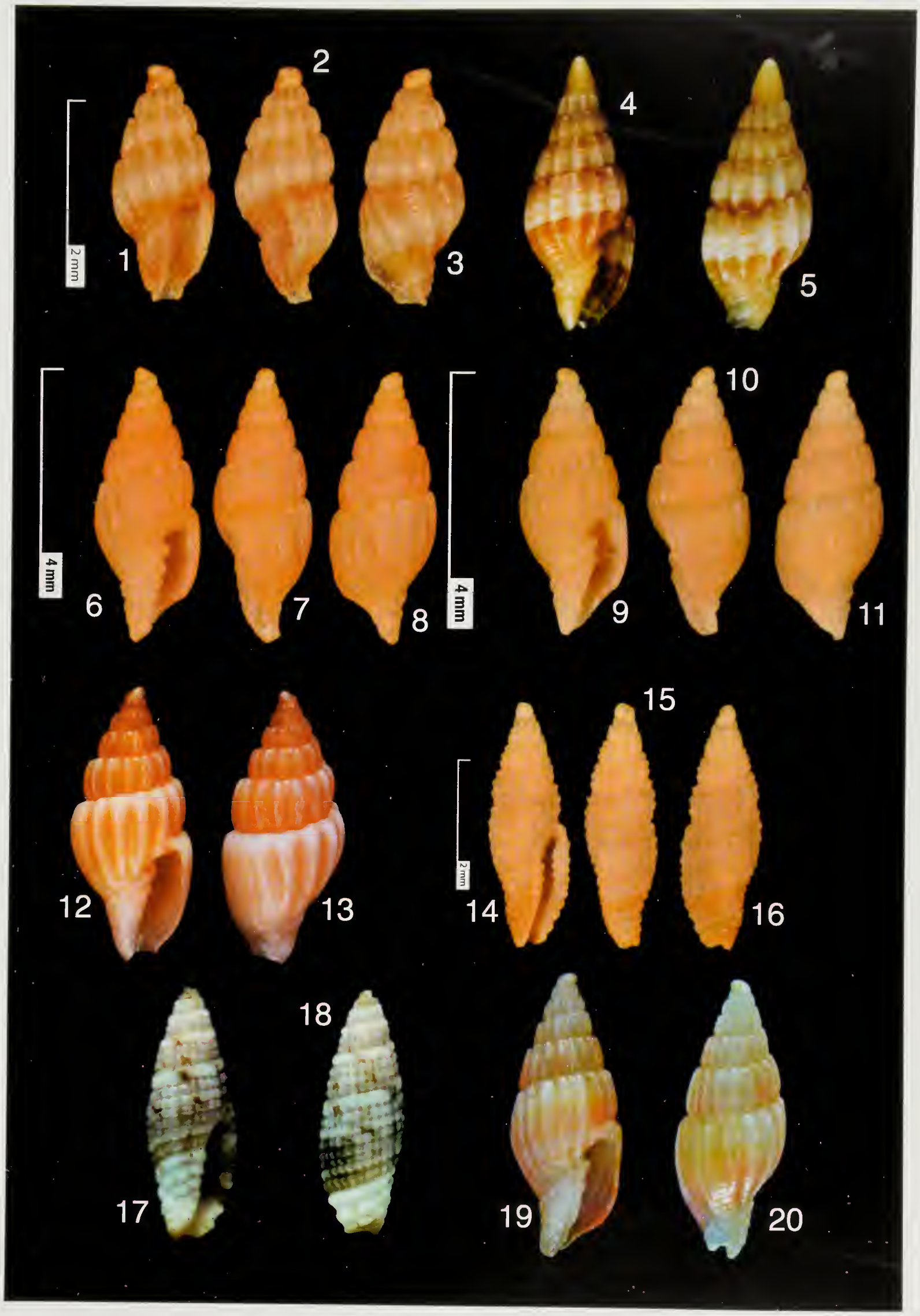
Habitat. In sand in small coral caves from 25 to 40 m

Range. Known only from Kosrae Island and Pohnpei Island, Caroline Islands

Description. Shell tiny, to 3.2 mm in length, 1.5 mm in width, elongate–ovate, opaque, some areas almost transparent. Protoconch, involute, mammillate, paucispiral of 2 glassy whorls. Teleoconch of 3 convex whorls, suture distinct and deeply incised.

Figures 1-20

1-3. *Vexillum* (*Pusia*) *oteroi* n. sp., holotype ANSP 451639, Walung drop off, Kosrae Island, Caroline Islands, in sand in small coral cave, 33 m. Size: 3.2 x 1.4 x 1.4 m.. Photo by Paul Callomon, ANSP; **4-5.** *Vexillum* (*Costellaria*) *diutenerum* (Hervier, 1897), Kepuhi Point, Makaha Beach, Oahu, Hawaii, in sand at base of a cliff line, 200 feet, Scuba. Size: 5.2 x 2.1 x 2.2 mm. RAS collection; **6-8.** *Vexillum* (*Pusia*) *beitzi* n. sp., holotype ANSP 451635, Walung drop-off, Kosrae Island, Caroline Islands, in sand, in a small coral cave, 38 m. Size: 6.0 mm x 2.3 mm x 3.3 mm. Photo by Paul Callomon, ANSP; **9-11.** *Vexillum* (*Pusia*) *beitzi* n. sp., paratype 1, . ANSP 451641,Trochus Sanctuary, Kosrae Island, Caroline Islands, in sand in a small coral cave, 33 m, Size: 5.2 mm x 2.1 mm x 2.9 mm. Photo by Paul Callomon, ANSP; **12-13.** *Vexillum* (*Pusia*) *salisburyi* Cernohorsky, 1976, paratype, Pupukea Beach, Oahu, Hawaii, in beach drift. Size: 6.1 x 2.4 x 2.5 mm. RAS collection; **14-16.** *Thala turneri* n. sp., holotype ANSP 451637, North Coral Gardens, Kosrae Island, Caroline Islands, in coral sand, 25 m. Size: 4.8 x 1.6 x 2.2 mm. Photo by Paul Callomon, ANSP; **17-18.** *Thala gorii* Rosenberg & Salisbury, 2003, holotype, North Male Atoll, Maldive Islands, in coral caves, 30 m. Size: 5.1 x 1.8 x 1.7 mm. ANSP 410282; **19-20.** *Vexillum* (*Pusia*) sp., Walung drop-off, Kosrae Island, Caroline Islands, on sand, 20 m. Size: 6.3 x 2.5 x 3.0 mm. SG collection.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Early whorls with 9-10 axial ribs, interspaces with 5-6 fine spiral grooves which do not intersect the axial ribs; Body-whorl with 9-10 strong axial ribs, interstices sculptured with 6-7 fine spiral grooves which may intersect the axial ribs near the suture, axial ribs and spiral grooves terminate about mid whorl; as the axial ribs terminate, there is a shallow flat area with some macroscopic axial and spiral sculpture; lower body whorl with 4-5 round, raised spiral cords, the first and largest spiral cord is pustulate, Aperture narrow; outer lip simple and smooth, slightly curved; inside the posterior aperture angle a small callus protuberance; 4-5 slender and smooth lirations within the aperture in some distance from the margin of outer lip; columella with 4 plaits decreasing in size anteriorly; very short siphon, siphonal notch very shallow or lacking. Color variable, embryonic whorl on protoconch white, second glassy whorl is brown or tan in color, shell white, early whorls light yellow with white band near suture, rarely with brown spots, body whorl with 2 brown bands separated by a wide white band, lower fasciole brown, first spiral cord is pustulate, with the pustules being faint white. Columellar folds are brown in fresh specimens, interior of aperture reflects the brown and white banding seen on the exterior of the shell.

Discussion. *V. (P.) oteroi* n. sp. is one of the smallest *Pusia* species described. It could be confused with juvenile shells of the larger species *Vexillum (Costellaria) diutenerum* (Hervier, 1897) (Figs 4-5). The protoconch of this new species is of a different form. The adult shell of *Vex. oteroi* being nearly the same size as the protoconch of *V. diutenerum*.

Etymology. Named in honor of the late José Maria Hernandez Otero, from Galdar, Gran Canaria, Spain, a dear friend of the junior author and unforgettable companion of many shelling expeditions.

Vexillum* (*Pusia*) *beitzi n. sp.
Figs 6-11

Type material. Holotype (Figs. 6-11): Walung drop-off, Kosrae Island, Caroline Islands, 05°18'17''N-162°53'51"E, in sand, in a small coral cave, November 13, 2007, 38 meters, collected by DB, ex SG collection, 6.0 mm x 2.3 mm x 3.3 mm. ANSP 451635.

Paratypes: Trochus Sanctuary, Kosrae Island, Caroline Islands, 05°21'195''N-162°53'915"E, in sand in a small coral cave, November, 2009, 33 meters, collected by DB. Paratype 1, 5.2 mm x 2.1 mm x 2.9 mm. ANSP 451641; paratype 2. SG collection, 4.5 mm x 2.0 mm x 2.6 mm; paratype 3. SG collection, 3.9 mm x 1.9 mm x 2.1 mm; paratype 4. SG collection, 3.1 mm x 1.5 mm x 2.0 mm (immature); paratype 5. SG collection, 4.6 mm x 2.5 mm (width) (fragment).
South Trochus Sanctuary, Kosrae Island, Caroline Islands, 05°20'416''N-162°56'665"E, in sand, December 2008, 25 meters, collected by DB. Paratype 6. SG collection, 5.00 mm x 2.1mm x 2.6 mm

Type locality. Kosrae Island, Caroline Islands

Habitat. In sand in small coral caves from 25 to 38 m

Range. Known only from Kosrae Island, Caroline Islands.

Description. Shell tiny, to 6.0 mm in length, elongate-fusiform, protoconch involute-mammilate-paucispiral of 1 ½ to 2 glassy pink whorls. Teleoconch of 4 slightly convex whorls, sutures distinct, Early whorls with 12-13 axial ribs, interspaces with 4-5 fine spiral grooves which do not intersect the axial ribs; sculpture of 4th whorl changes to axial ribs with a small but distinct subsutural bead; on later whorls, the bead becomes larger and more prominent. Body whorl with 13-14 strong axial ribs, interstices sculptured with 16-18 fine spiral grooves which may weakly intersect the axial ribs below the bead near the suture; axial ribs and spiral grooves terminate about mid-whorl, as the axial ribs terminate, there are 2-3 spiral rows of minute beads, lower body whorl with 3-4 round, raised spiral cords, the first and second spiral cords are pustulate, Aperture narrow; outer lip simple and smooth, slightly curved; inside the posterior aperture angle a small callus protuberance; inside the aperture there are numerous slender smooth lirations; columella with 4 plaits decreasing in size anteriorly; siphon short, siphonal notch very shallow or lacking. Color uniform, protoconch pink or faded white, shell red to reddish-pink, beginning with whorl 4, there is a light-purple to white subsutural bead on each axial rib, lower fasciole and aperture red to reddish-pink.

Discussion. *Vexillum (Pusia) beitzi* n. sp is similar to *Vexillum (Pusia) salisburyi* Cernohorsky, 1976 (Figs 12-13). It differs in being smaller with a much more sculptured shell, has a row of subsutural beads as each axial rib terminates at the suture. This new species could also be confused with *Vexillum (Pusia) pilsbryi* (Hedley, 1899). It differs in being much more sculptured, with a less elongate protoconch and the presence of rows of subsutural beads. The recently described species *Vexillum (Pusia) unicolor* Herrmann, 2012 is sculpturally similar but has a more bulbous protoconch, lacks the subsutural beads and is beige in overall color.

Etymology. Named in honor of Doug Beitz, owner and director of Kosrae Nautilus Resort, whose patience and skill were of much help during the research dives of the junior author in Kosrae.

Genus **Thala** H. & A. Adams, 1853

Type species by subsequent designation: *Mitra mirifica* Reeve, 1845.

Thala turneri, n. sp.
Figs 14-16

Type material. Holotype (Fig. 8): North coral gardens, Kosrae Island, Caroline Islands, in coral sand, 25 m, September 2008, collected by DB, ex SG collection, 4.8 x 1.6 x 2.2 mm. ANSP 451637.

Paratypes: Walung drop-off, Kosrae Island, Caroline Islands, 05°18'17''N-162°53'51''E, in sand in a small coral cave at 33 m, November 13, 2007, collected by SG. Paratype 1. SG collection, 5.3 mm x 1.7 mm x 2.7 mm; paratype 2. SG collection, 4.7 mm x 1.6 mm x 2.6 mm; paratype 3. SG collection, 4.3 mm x 1.4 mm x 2.2 mm.
Walung drop off, Kosrae Island, Caroline Islands, in coral sand, 25 m, September 2008, collected by DB. Paratype 4. RAS collection, 5.1mm x 1.7 mm x 2.4 mm.
Walung drop off, Kosrae Island, Caroline Islands, 05°18'469''N-162°53'915''E, in sand patches, 25 m, September 2008, collected by DB. Paratype 5. GP collection, 3.3 mm x 1.5 mm x 2.1 mm; paratype 6. JPL collection, 3.9 mm x 1.6 mm x 2.4 mm; paratype 7. SG collection, 4.2 mm x 1.5 mm x 2.4 mm; paratype 8. SG collection, 4.0 mm x 1.5 mm x 2.3 mm; paratype 9. SG collection, 4.5 mm x 1.5 mm x 2.4 mm.
South Trochus Sanctuary, Kosrae Island, Caroline Islands, 05°20'416''N-162°56'665"E, on sand, December 2008, 25 meters, collected by DB. Paratype 10. MH collection, 5.2 mm x 1.7 mm x 2.6 mm; paratype 11. IP collection, 4.8 mm x 1.5 mm x 2.6 mm; paratype 12. SG collection, 5.0 mm x 1.6 mm x 2.6 mm; paratype 13. SG collection, 5.3 mm x 1.7 mm x 2.7 mm.
Pehleng Pass, south ocean side drop-off, Pohnpei, Caroline Islands, 06°51'29"N-158°06'24" on sand in a small coral cave,17 November 2007,40 m, collected by SG. Paratype 14. SG collection, 4.3 mm x 1.6 mm x 2.3 mm; paratype 15. SG collection, 5.1 mm x 1.7 mm x 2.6 mm; paratype 16. SG collection, 4.8 mm x 1.5 mm x 2.6 mm; paratype 17. SG collection, 5.2 mm x 1.7 mm x 2.6 mm; paratype 18. SG collection, 5.4 mm x 1.8 mm x 2.9 mm; paratype 19. SG collection, 4.3 mm x 1.6 mm x 2.3 mm; paratype 20. HT collection. 5.3 mm x 1.7 mm x 2.5 mm.

Type locality. Walung drop off, Kosrae Island, Caroline Islands, 05°18'469''N-162°53'915''E

Habitat. In coral sand from 25 to 40 m

Range. Known from Kosrae and Pohnpei Islands, Caroline Islands

Description. Shell tiny to approximately 5.4 mm, elongate-fusiform, protoconch involute paucispiral of 1.5 embryonic white whorls. Teleoconch of 4-5 whorls, early spire whorls with 3-4 beaded spiral cords, slightly convex in outline, beads on the spiral cords align axially to form 16 to 17 beaded axial ribs, beads on the spiral cords are close-set but not fused, suture shallow and not well defined, body whorl with 12-13 spiral cords, beads on spiral cords are set apart and connected by round threads, with 17-18 beaded axial ribs which become smaller, less beaded and more rounded on the lower body whorl, aperture nearly equal to half of the length of the shell, very narrow as is typical of many Thala species, with a slight anal depression reminiscent of a turrid's notch, outer lip undulate with 8 to 9 denticles along the inner lip becoming obsolete at the siphonal canal, interior of the aperture without lirations, siphonal canal open and short, siphonal notch shallow, columella with 4 folds, base color tan to brown with faint yellow bands of beads on the whorls, beads on siphonal fasciole slightly darker brown.

Etymology. Named in honor of the late Hans Turner, friend of both authors and well known malacologist whose great knowledge of Mitroidea is known all over the world.

Discussion. Is similar to *Thala gorii* Rosenberg and Salisbury, 2003 (Figs 17-18). *T. turneri* differs in being smaller, protoconch of one less whorl, beading much finer and more widely spaced. *T. gorii* has fewer rows of spiral beads, despite being larger. *Thala gorii* is light in color with brown spots, interrupted brown bands on the body whorl with a few pearl-white beads. *Thala turneri* is yellowish, light brown to dark brown in color with very faint bands of light yellow beads.

Additional species found in the same habitat

Vexillum (Costellaria) aureolineatum Turner 1988: Only from Kosrae.
Vexillum (Costellaria) cosmani (Kay 1979): Only from Kosrae.
Vexillum (Pusia) diutenerum (Hervier 1897): From both islands.
Vexillum (Pusia) emiliae (Schmeltz 1874): Only from Kosrae.
Vexillum (Pusia) exquisitum (Garrett, 1873) = *Vexillum (Pusia) suave* (Souverbie 1875): Only from Kosrae.
Vexillum (Pusia) fortiplicatum (Pease 1868): Only from Kosrae.
Vexillum (Pusia) gagei Salisbury in Severns, 2011: Only from Pohnpei.
Vexillum (Pusia) goubini (Hervier 1897): Only from Kosrae.
Vexillum (Pusia) kuiperi Turner 2006: Only from Pohnpei.

Vexillum (Pusia) loyaltiensis (Hervier 1897): Only from Kosrae.
Vexillum (Costellaria) micra (Pilsbry 1921): Only from Kosrae.
Thala mirifica Reeve 1845: Only from Kosrae.
Vexillum (Costellaria) modestum (Reeve 1845): Only from Kosrae.
Vexillum (Pusia) piceum (Pease 1860): From both islands.
Vexillum (Pusia) pluriuotatum (Hervier 1897): Only from Kosrae.
Vexillum (Pusia) roseotinctum (Hervier 1897): Only from Kosrae.
Vexillum (Pusia) rubrum (Broderip 1836): Only from Kosrae.
Vexillum (Pusia) tusum (Reeve 1845): From both islands.
Vexillum (*Pusia*) sp. (Figs 19-20): Only from Kosrae.

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Description de *Pollia krauseri* n. sp. (Mollusca: Gastropoda: Buccinidae) des Iles Marquises (Polynésie française)

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MOTS-CLEFS. Mollusca, Gastropoda, Buccinidae, Polynésie française

KEYWORDS. Mollusca, Gastropoda, Buccinidae, French Polynesia

RÉSUMÉ. Une nouvelle espèce *Pollia krauseri* n. sp. est décrite des Îles Marquises (Polynésie française) et est comparée à *Pollia undosa* (Linnaeus, 1758) espèce à large répartition indo-pacifique.

ABSTRACT. *Pollia krauseri* n. sp. is described from Marquesas Islands (French Polynesia) and is compared with *Pollia undosa* (Linnaeus, 1758) a common Indo-Pacific species.

INTRODUCTION

Le matériel étudié provient exclusivement des Îles Marquises. L'espèce a régulièrement été citée de l'archipel sous l'identification erronée de *Pollia undosa* (Linnaeus, 1758). Tröndlé & Cosel (2005) mentionnent les Îles Marquises pour *P. undosa* sur la foi de plusieurs citations récentes (Rehder, 1969: 31, Salvat et Rives, 1975: 318, Planes et al., 1995: 69). Plus récemment Tröndlé & Boutet (2009) reprennent également par erreur les Îles Marquises dans leur inventaire. *P. undosa* est absente des Îles Marquises. Nous démontrerons dans ce travail que *P. krauseri* n. sp. est une espèce distincte de *Pollia undosa* (Linnaeus, 1758).

Abréviations

CRIOBE: Centre de Recherches Insulaires et Observatoire de l'Environnement, Moorea, Polynésie française.
EPHE: École Pratique des Hautes Études, Perpignan, France.
IRSNB: Institut royal des Sciences naturelles de Belgique, Bruxelles, Belgique.
MNHN: Muséum national d'Histoire naturelle, Paris, France.
JT: Collection Jean Tröndlé, La Force, France.
KF: Collection Koen Fraussen, Aarschot, Belgique.
MB: Collection Michel Boutet, Papara, Tahiti, Polynésie française.
PF : Polynésie française.

v.: vivant.
m.: mort.

SYSTÉMATIQUE

Famille **BUCCINIDAE** Rafinesque, 1815
Genre ***Pollia*** Gray, 1834
Espèce type *Buccinum undosum* Linnaeus, 1758, par monotypie

Pollia krauseri n. sp.
Figs 1-6

Matériel type. 12 individus; holotype MNHN 26054, 30 mm (v., Hiva Oa, 10 m.) (Figs 1-3, 5); 2 paratypes MNHN 26055: 28,5 mm (v., Ua Pou, 30 m) (Fig. 4), 27,8 mm (v., Ua Pou, 30 m); 2 paratypes MNHN 26056: 12 mm (v., Nuku Hiva, 25 m) (Fig. 6), 26,2 mm (v., Nuku Hiva, 25 m); 1 paratype MNHN 26057, 26,2 mm (m., Nuku Hiva, 1 m); 3 paratypes: 23,8 mm (v., Hiva Oa, 10 m), 22,2 mm et 15,1 mm (v., Nuku Hiva, 15 m), CRIOBE; 1 paratype IRSNB IG.32410/MT.2832, 24,1 mm (v., Nuku Hiva, 25 m); 2 paratypes: 27,6 mm (v., Ua Pou, 30 m), 26,4 mm (m., Nuku Hiva, 15 m), JT; 2 paratypes: 25,6 mm (m., Hiva Oa, 10 m), 24,6 mm (v., Nuku Hiva, 20 m), KF.

Autre matériel examiné. 3 v. (Nuku Hiva, 25 m) et 1 v. (Nuku Hiva, 20 m), JT; 3 v. (Nuku Hiva), MB; 1v. (Ua Huka), 2 v. (Tahuata) et 1 m. (Fatu Hiva), CRIOBE.

Localité type. Hiva Oa, Îles Marquises, Polynésie française, 9°47'Sud, 139°Ouest.

Description de l'holotype. Coquille biconique, acuminée, robuste, de couleur orangée, mesurant 30 mm. Protoconque absente. Téléoconque comportant 6 ½ tours convexes, à la suture bien marquée. Les premiers tours sont sculptés de bourrelets axiaux

obliques qui deviennent obsolescents sur le dernier tour. Ces bourrelets sont entrecoupés par des cordes circulaires, de couleur plus foncée, au nombre de quatre sur l'avant-dernier tour et 17 sur le dernier. L'espace entre ces cordes est large, concave et parcouru par une ou deux rides circulaires secondaires plus fines. À fort grossissement apparaissent de nombreuses stries axiales. Le test est dépourvu de son périostracum. Un épais bourrelet est situé en arrière du labre. L'ouverture, approximativement 1 ½ plus haute que la spire, est entièrement blanche et possède un bord externe muni de dents qui se prolongent à l'intérieur par des stries. La columelle est concave; elle est marquée dans sa moitié supérieure de plusieurs plis dans le prolongement des cordes du dernier tour et dans sa partie inférieure par une callosité formée de trois fortes dents.

Distribution. Uniquement connue de l'Archipel des Marquises.

Remarques. La taille des exemplaires adultes de *Pollia krauseri* n. sp. examinés se situe entre 21,8 mm et 31,5 mm. Dans son aspect général l'espèce peut être comparée à *Pollia undosa* (Linnaeus, 1758), espèce à large répartition indo-pacifique également présente en Polynésie française dans tous les archipels (Tröndlé & Boutet, 2009), excepté celui des Marquises où elle a été citée par erreur. *P. krauseri* a généralement été considérée par les collectionneurs comme une forme marquisienne de *P. undosa*. Elle s'en différencie par sa taille, *P. undosa* pouvant atteindre 40 mm (Cernohorsky, 1972), par sa couleur, *P. undosa* étant de couleur blanche à ocre parcourue d'épais cordons brun foncé à noir (Figs 7-9). La sculpture axiale réservée aux premiers tours de la spire de *P. undosa* est parfois visible jusque sur le dernier tour de *P. krauseri*. Le périostracum de *P. undosa* (Fig. 10) est plus épais. Le bourrelet situé immédiatement en bordure de la lèvre externe est très développé et forme une gibbosité à l'épaule chez l'adulte de *P. undosa* (Figs7-9); il est sensiblement moins prononcé, oblique et situé en arrière de la lèvre externe chez *P. krauseri* (Figs 1-2). Le péristome entièrement blanc chez *P. krauseri* (Fig. 5) est généralement teinté d'orangé sur sa bordure externe et la partie antérieure de la columelle chez *P. undosa* (Fig. 11). Les protoconques des deux espèces sont également très différentes, celle de *P. krauseri* (Fig. 6) acuminée fait 2 ¼ tours, celle de *P. undosa* (Fig. 12) est bulbeuse et fait 1 ¼ tour.
Pollia wrightae (Cernohorsky, 1974) décrite des Îles Fiji ressemble par sa couleur à *P. krauseri*, mais s'en différencie par sa taille sensiblement plus petite, son ouverture plus large, une bande blanche entourant le dernier tour et essentiellement sa protoconque bulbeuse proche par son aspect à celle de *P. undosa* (Cernohorsky, 1971: 148, fig. 37, comme *Pollia subrubiginosus* (E.A. Smith, 1879), identification erronée).
Les autres représentants du genre *Pollia* présents en Polynésie française sont tous absents des Îles Marquises et ne peuvent être confondus avec *P. krauseri*. Il s'agit de *P. bednalli* (Sowerby III, 1895), espèce australienne présente à Rapa (Fraussen, 2012), *P. mondolonii* Fraussen, 2012, connue uniquement de l'Archipel des Gambier, *P. eximia* (Reeve, 1846), espèce indo-pacifique peu commune, récoltée aux Tuamotu (JT), *P. funnosa* (Dillwyn, 1817) et *P. wagneri* (Anton, 1839), à large répartition indo-pacifique, vivant dans tous les archipels polynésiens excepté celui des Marquises.

Etymologie. L'espèce est dédiée à † Siméon Krauser, instituteur et conseiller pédagogique en Polynésie française, décédé à la suite d'un accident le 9 avril 1979. De par sa profession, il visitait de nombreuses îles et avait à cœur de partager avec ses élèves et son entourage son amour et sa profonde connaissance des Îles polynésiennes. Constatant l'intérêt que ma femme et moi portions aux coquillages dès notre arrivée à Tahiti, il a su nous sensibiliser à l'originalité de la faune malacologique des Îles Marquises.

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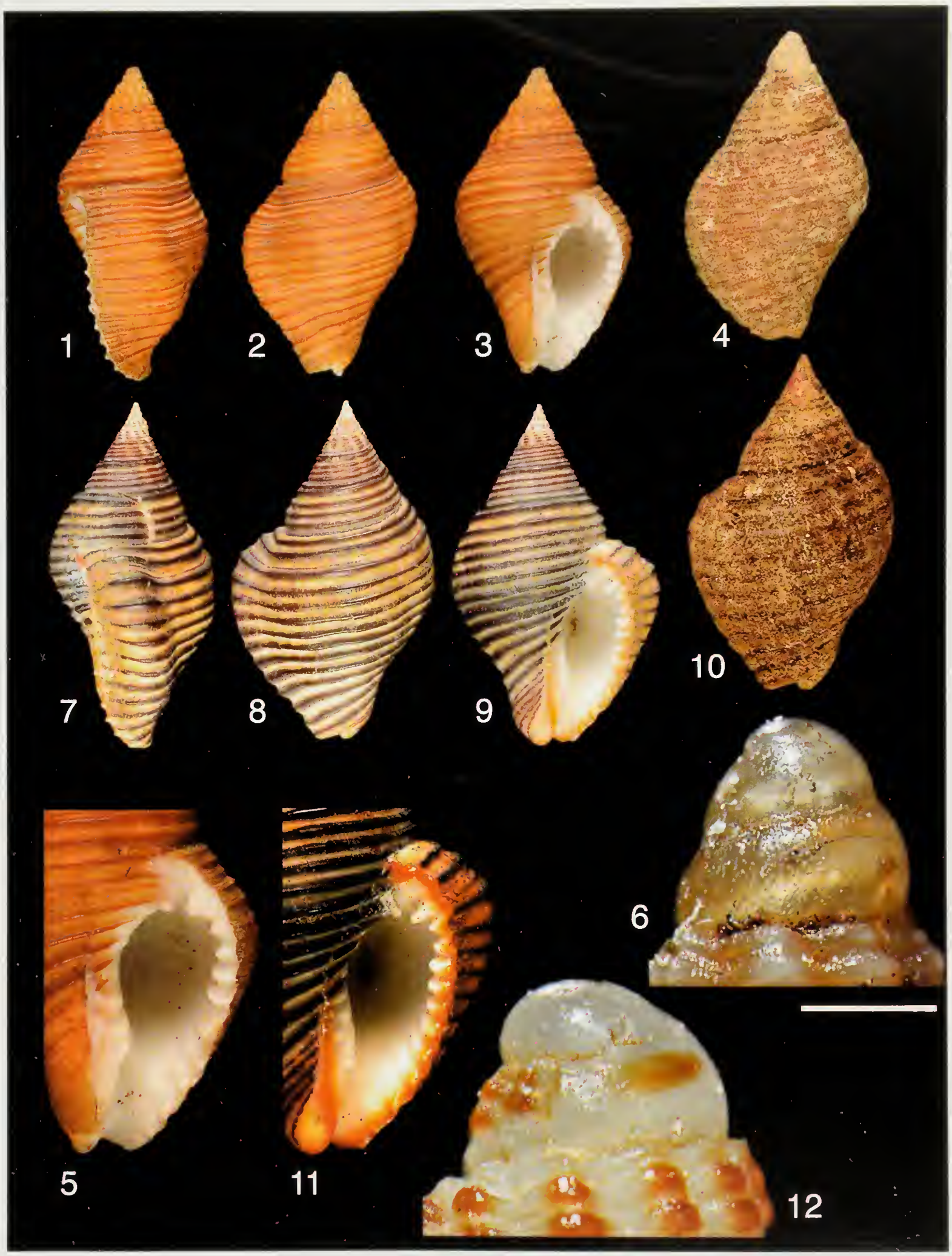
Figures 1-12 (barre d'échelle 500 microns, photos digitales P. Maestrati, MNHN).

1-3, 5. *Pollia krauseri* n. sp., holotype MNHN 26054 (30 mm, Hiva Oa, Îles Marquises); **4.** *Pollia krauseri* n. sp., paratype MNHN 26055 (28,5 mm, Ua Pou, Îles Marquises); **6.** *Pollia krauseri* n. sp., paratype MNHN 26056(12 mm, Nuku Hiva) (protoconque); **7-9, 11.** *Pollia undosa* (Linnaeus, 1758) (38,5 mm, Papeete, Tahiti); **10.** *Pollia undosa* (Linnaeus, 1758) (35,2 mm, Marae Mahaiatea, Papara, Tahiti); **12.** *Pollia undosa* (Linnaeus, 1758) (15 mm, Takaroa, Tuamotu) (protoconque).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Description of a new species of *Terebra* (Mollusca: Gastropoda: Terebridae) from French Polynesia

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KEYWORDS. Mollusca, Gastropoda, Terebridae, French Polynesia

MOTS-CLEFS. Mollusca, Gastropoda, Terebridae, Polynésie française

ABSTRACT. *Terebra vappereaui* sp. nov. is described from French Polynesia and is compared with its closest relatives *Terebra consobrina* Deshayes, 1857, *Terebra ligata* Hinds, 1844, *Terebra subulata* Linnaeus, 1767 and *Terebra achates* Weaver, 1960.

RÉSUMÉ. Une nouvelle espèce *Terebra vappereaui* sp. nov. est décrite de Polynésie française et est comparée à *Terebra consobrina* Deshayes, 1857, *Terebra ligata* Hinds, 1844, *Terebra subulata* Linnaeus, 1767 et *Terebra achates* Weaver, 1960.

INTRODUCTION

The group of "spotted" *Terebra* s.s. [excluding the spotted *Oxymeris areolata* (Link, 1807)] is a homogenous group of shells characterised by a beaded subsutural area in early whorls and two rows of usually dark brown spots. They are distinguishable from one another mainly by the texture on the remainder of the whorl and transformation of the beading on the subsutural band. The last to be described in this group is *Terebra achates* (Weaver, 1960), an endemic of the Hawaiian Islands (Terryn, 2011). Besides the latter, also *Terebra ligata* Hinds, 1844 is an endemic species, to the Marquesas Islands (Tröndlé & von Cosel, 2005). *Terebra consobrina* Deshayes, 1857 was thought to be limited to the Red Sea but is occasionally found in the Indian Ocean. Reports from elsewhere remain rare, doubtful and unconfirmed. *Terebra subulata* Linnaeus, 1767 on the otherhand, is a rather common species throughout the Indian and Pacific Ocean, present in all archipelagos of French Polynesia (Salvat & Rives, 1975; Tröndlé & Boutet, 2009).

Although plausible that besides the Hawaiian Islands and Marquesas Islands, also the Polynesian Archipelago could harbor an endemic species, it was to our great surprise that a unknown, large, spotted *Terebra* was brought to our attention. The species is here described as new to science in honor of its discoverer.

Abbreviations

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JT: Collection Jean Tröndlé.
MB: Collection Michel Boutet.
MNHN: Muséum national d'Histoire naturelle, Paris, France.
NHMUK: Natural History Museum, United Kingdom.
PV: Collection Patrick Vappereau.
YT: Collection Yves Terryn.

SYSTEMATICS

Species here discussed and described are arranged according to the system proposed by Terryn (2007).

Family **TEREBRIDAE** Mörch, 1852
Genus ***Terebra*** Bruguière, 1789
Type species: *Buccinum subulatum* Linnaeus, 1767, by monotypy, Lamarck, 1799.

Comment: The species is described in the genus *Terebra* s. s. [sensu Terryn (2007)], not s.l. [sensu Bratcher & Cernohorsky (1987)]

Terebra vappereaui sp. nov.
Figs 1-8, 20-21

Type material. Holotype: MNHN 26059, 89.8 mm. Paratypes: Paratypes 1-2: MNHN 26060, 43.0 mm (only specimen with protoconch intact) & 83.7 mm; Paratype 3: JT, 80.7 mm; Paratype 4: CRIOBE, 81.1 mm; Paratype 5: PV, 80.1 mm; Paratype 6: YT, 78.5 mm; Paratype 7: IRSNB IG 32410 / MT.2833, 71.9 mm; Paratype 8: YT, 71.8 mm; Paratype 9: JT, 61.2 mm (fragment, protoconch and bodywhorl damaged or not present); Paratype 10: CRIOBE, 34.8 mm.

Other material examined. MB, 87.1 mm and 91 mm.

Type locality. 20 m, Pirae, Tahiti, French Polynesia, 17°31'15" S - 149°33' W.

Range. Only known from the type locality.

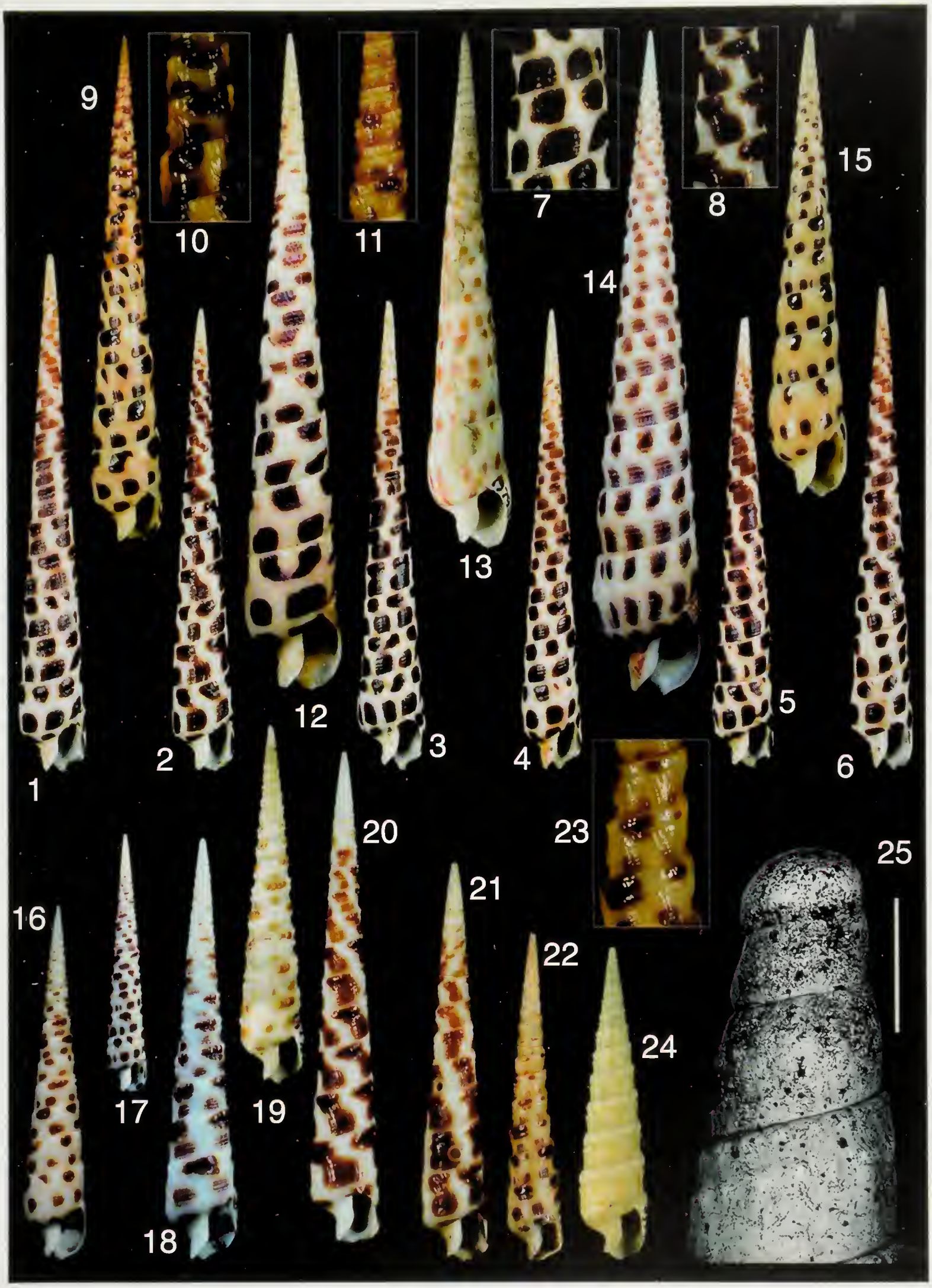
Description. Shell up to 91 mm (MB). Slender, white with two rows of smudged brown spots; one on the subsutural band, one above the suture, somewhat alternating, and coalescing on the earlier whorls into a zigzag or inverted S-shaped pattern. Overall outline of shell straight, only slightly indented at the suture, individual whorls straight. Protoconch of about 1.5 whitish conical whorls. Subsutural band bordered by a shallow, weakly punctate, continuous groove and decorated by thicker ends of axial striae which continue onto the remainder of the whorl in a faded manor. Here they appear as axial growth striae. Below the border of subsutural band, there is a somewhat thickened band about half the size of the subsutural one, which appears to be smooth except for the shallow axial striae. Spiral structure on the remainder of the whorl consists of 6 spiralling rows of small dots. The general sculpture tends to fade in adults and only the faint axial striae from suture to suture and spiral incisions on the remainder of the whorls are discernable. Aperture elongate quadrate, columella curved. Animal and operculum unknown.

Comments. In many groups of Terebridae it is rare to find mature specimens with intact protoconch, this particular new species is no exception. Of the up to now 13 known specimens, only a single subadult was found with the protoconch present. The number of protoconch whorls, establishable on this single specimen, could not be conclusively determined as the transition protoconch to teleoconch was only vaguely discernable due to the status of that part of the shell. We estimate it here to be about 1.5, as further on the whorl becomes slightly angular at about midwhorl, which is already an indication of the teleoconch early sculpture.

Comparative notes. *Terebra vappereaui* sp. nov. is compared with its closest relatives: *Terebra consobrina* Deshayes, 1857, *Terebra ligata* Hinds, 1844, *Terebra subulata* Linnaeus, 1767 and *Terebra achates* Weaver, 1960.

Figures 1-25

1-8. *Terebra vappereaui* sp. nov., 20 m, Pirae, Tahiti, French Polynesia: **1**. Holotype, MNHN 26059, 89.8 mm. **2**. Paratype 3, 80.7 mm. **3**. Paratype 4, 81.6 mm. **4**. Paratype 5, 80.1 mm. **5**. Paratype 6, 78.5 mm. **6**. Paratype 2, 83.7 mm. **7**. Detail of midwhorls of holotype (not scaled). **8**. Detail of upper midwhorls of paratype 1, MNHN 26060 (not scaled); **9-11**. *Terebra subulata* Linnaeus, 1767, 20 m, Pirae, Tahiti, French Polynesia: **9**. JT, 88.1 mm. **10**. Detail of midwhorls (not scaled). **11**. Detail of upper midwhorls (not scaled); **12-13**. *Terebra consobrina* Deshayes, 1857: **12**. Dived, off Tuléar Madagascar, YT, 113.6 mm. **13**. NHMUK 197956, lectotype, Red Sea, 89.4 mm; **14**. *Terebra achates* Weaver, 1960: Dived at 4 m, S of naval airstrip beach, Sand Island, Midway, Hawaiian Archipelago, YT, 114.6 mm; **15**. *Terebra subulata* Linnaeus, 1767, MNHN, SANTO2006, Stn FR42, Palikulo Bay, dived between 3 and 31 m on a snadly slop with small coral reefs, 80.9 mm; **16**. *Terebra* species, in shallow water, Colette Bay, Nuku Hiva, Marquesas Islands, GP, 61.4 mm; **17-19**. *Terebra ligata* Hinds, 1844: **17**. MNHN, Stn DW1217, Hiva Oa, Marquesas Islands, 44.7 mm. **18**. MNHN, Musorstom 9, Stn DW1154, Eiao, 36.4 mm. (x 2) **19**. NHMUK 1844.6.7.79, syntype, Marquesas Islands, 31.1 mm. (x 2); **20-21**. *Terebra vappereaui* sp. nov., 20 m, Pirae, Tahiti, French Polynesia: **20**. Paratype 1, MNHN 26060, 43.0 mm. (x 2) **21**. Paratype 10, 34.8 mm. (x 2); **22-23**. *Terebra subulata* Linnaeus, 1767, 20 m, Pirae, Tahiti, French Polynesia: **22**. JT, 28.6 mm. (x 2) **23**. Idem, detail of midwhorls (not scaled); **24**. *Terebra tessellata* Gray, 1834, NHMUK 1979120, holotype, Gulf of Aden (by SD Bratcher & Cernohorsky, 1987)), 27 mm. (x 2); **25**. *Terebra vappereaui* sp. nov., MNHN 26060, paratype 1, detail of protoconch. Scale bar = 500 µm.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Terebra consobrina: The species was described from the Red Sea (Fig. 13) and long thought to be endemic to that region. In recent decades, *T. consobrina* was also retrieved in shallow water off Madagascar (Fig. 12). There are however unconfirmed reports from its presence in the Philippine Islands and elsewhere in the Pacific Ocean. Besides being much wider in outline, having a heavier shell, the spiral sculpture of *T. consobrina* is much coarser (elongate punctate) and remains either very visible on later whorls or disappears completely (holotype). The subsutural band is rather flattened and wide; the band below the subsutural demarcation is not thickened. All specimens of *T. vappereaui* sp. nov. shows only spiral grooves and axial (growth) striae on the sculpture of the later whorls of adults. They always show a sculptured subsutural band and the band below the sutural demarcation is always somewhat swollen.

Terebra ligata: This enigmatic species was long time only known from the syntype (Fig. 19) until subadults (up to ca. 40 mm) were rediscovered amongst material retrieved by the MNHN from the Marquesas Islands (Musorstom 9, see figs 17-18). The species is in general very comparable to *T. vappereaui* sp. nov. but the sculpture on the subsutural band of the first teleoconch whorls consists of a heavy beading instead of axial riblets and the sculpture on the remainder of the whorl gives a reticulated impression.

Terebra subulata: *T. subulata* was found to co-exist in the same area (Figs 9-11 & 22-23) where *T. vappereaui* sp. nov. has been found and was easily distinguishable to the naked eye from another. The main difference that makes juveniles of both species stand out is that even the early whorls and general outline in *T. vappereaui* sp. nov. is straight-sided where in *T. subulata* this is somewhat turreted because of the relatively swollen and wide subsutural band. *T. subulata* has in general a more discrete spotted pattern and the whorls are increasingly convex, with a somewhat recurved columella.

Terebra achates: The species is only recorded from the Hawaiian Islands (Fig. 14) and has a number of features comparable to *T. vapperreaui* sp. nov. The features as described for *T. vappereaui* sp. nov. are almost identical to that of *T. achates* but are relatively always coarses (ribbing on subsutural band), larger (whorls, spiral sculpture on remainder of whorl) and wider (outline, subsutural band).

We here mention for completeness *Terebra tessellata* Gray, 1834 because it is a spotted terebrid with a range supposably extending from the Gulf of Aden to the Austral Islands. But the holotype of the species and the very few specimens known have characteristics which would exclude it from *Terebra* s.s. and placement in the genus *Oxymeris* Dall, 1903 would be more justified. This is best illustrated by the widened shape of the bodywhorl of the specimen from Djibouti figured by Bratcher & Cernohorsky (1987: 36, pl. 2, figs 5d-e) and the relatively heavy shells. The same can be observed in *Terebra achates* from Hawaii, but both are here conservatively considered as *Terebra* s.s. pending future molecular results.

Derivatio nominis: The species is dedicated to Mr Patrick Vappereau who collected the first specimens and who brought the species to our attention.

ACKNOWLEDGEMENTS

We would like to express our gratitude to the following people who were of invaluable help during the study: Dr Philippe Bouchet, Mr Philippe Maestrati & Mrs Virginie Héros, for allowing access to the collections and for pictures of the protoconch of the new species; Mrs Kathie Way, for granting us access to the type collection and for the use of type pictures; Mr Gianluigi Pellifroni, for allowing use of pictures of specimens in his private collection; Mr Gavin Malcolm, for general assistance and comments.

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Two remarkable new gastropods (Muricidae: Muricinae) from the Mascarene Plateau, Indian Ocean

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Keywords. Gastropoda, Muricidae, Indian Ocean, Mascarene Plateau, new species.

Abstract. Two new species of the family Muricidae are described from Nazareth Bank and the Cargados Carajos Shoals, in the western Indian Ocean. *Haustellum lorenzi* n. sp. from Nazareth Bank is obviously different from any other known *Haustellum* species. *Chicoreus* (*Triplex*) *janae* n. sp. from the Cargados Carajos Shoals is compared with a few other species but differs mainly in having tabulate teleoconch whorls and a relatively narrow and long siphonal canal.

Résumé. Deux nouvelles espèces appartenant à la famille des Muricidae sont décrites du Banc Nazareth et des bancs Cargados Carajos, au nord de l'Ile Maurice, dans l'océan Indien occidental. *Haustellum lorenzi* n. sp. du Banc Nazareth est manifestement différente d'autres espèces connues du genre *Haustellum*. *Chicoreus* (*Triplex*) *janae* n. sp. des bancs Cargados Carajos est comparée à quelques autres espèces mais diffère surtout par sa rampe subsuturale pratiquement horizontale et par son canal siphonal relativement étroit et long.

INTRODUCTION

The Mascarene Plateau is a geographical term that designates the arc of submarine banks and shoals extending from the Seychelles in the north, to Mauritius in the south, and including Saya de Malha Bank, Nazareth Bank, and the Cargados Carajos Shoals. The Mascarene Plateau (Fig. 1) has a volcanic origin, and has been formed by the hotspot that is currently below the island of Réunion. Réunion is the youngest part of the arc, and Saya de Malha is the oldest, its origin going back to the Paleocene (65 MY ago). Between Saya de Malha and Réunion, the geological ages range from the Eocene (45 MY) for the Nazareth Bank to Miocene (20 MY) for Mauritius. Saya de Malha briefly enjoyed a period of fame when Russian trawlers discovered a spectacular suite of endemic species in the 1990s, starting with *Conus primus* Röckel & Korn, 1990, and among others, the marginellid *Closia limpida* Bozzetti, 1992, the harpid *Morum vicdani* Emerson, 1995, the volutes *Lyria doutei* Bouchet & Bail, 1991, *Callipara aphrodite* (Bondarev, 1999) and *Lyria bondarevi* (Bail & Poppe, 2004), the cassids *Semicassis bondarevi* Mulhausser & Parth, 1993 and *Phalium vector* Tucker, 1994, the olivids *Amalda trippneri* Kilburn, 1996 and *A. danilai* Kilburn, 1996 and the calliostom *Calliostoma grolii* Stratmann & Stahlschmidt, 2007. In terms of muricids, *Murex surinamensis* Okutani, 1992, *Vokesimurex danilai* (Houart, 1992) and *Haustellum bondarevi* Houart, 1999 were newly discovered. By contrast, the Cargados Carajos Shoals (also known as St Brandon) have not captured the recent attention of malacologists, although it is the origin of the elusive volute *Lyria anna* (Lesson, 1835), and the legendary muricid *Naquetia barclayi* (Reeve, 1858). Also *Lambis violacea* (Swainson, 1821) and *Bistolida piae* (Lorenz & Chiapponi, 2005) were described from there. None of these species, however, is endemic to the Atoll but found in other places along the Mascarene Plateau. In the last few years, several species apparently endemic to the shallow waters of St. Brandon have been newly discovered on Cargados Carajos by Felix Lorenz and Eric le Court de Billot, such as *Rolaniconus lecourtorum* Lorenz, 2011, *Ficus dandrimonti* Lorenz, 2012, *Morum lorenzi* Monsecour, 2011 and *Bistolida nanostraca* Lorenz & Chiapponi, 2012. Nazareth Bank, in turn, is the least explored structure of the Mascarene Plateau and not a single mollusc species seems to have been recorded from it.

The new species reported in the present paper contributes to the remarkable endemic fauna of the Mascarene Bank. *Haustellum lorenzi* n. sp., constitutes the first species known specifically from Nazareth Bank, and *Chicoreus janae* n. sp., is another endemic element of the molluscan fauna of Cargados Carajos.

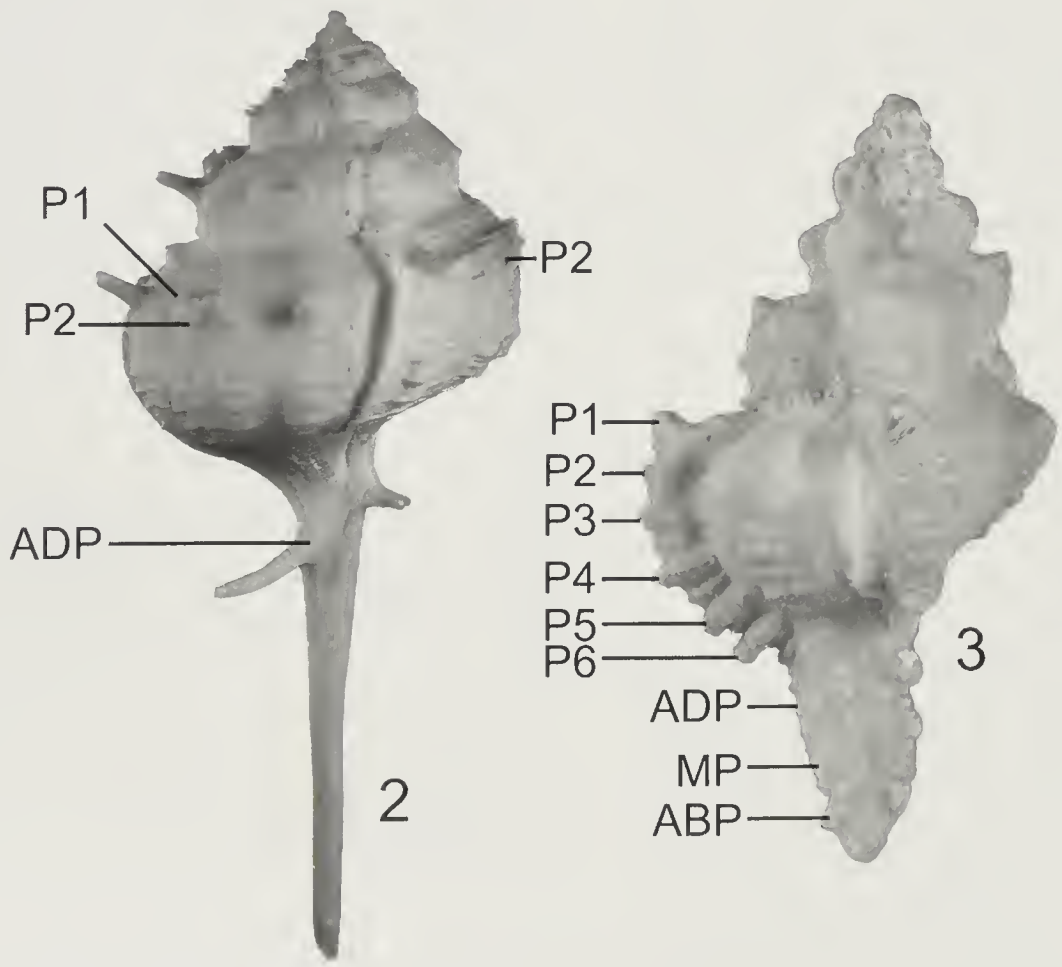
Abbreviations

Terminology used to describe the spiral cords (after Merle, 2001 and 2005)
(Figs 2-3)

P: primary cord; **S:** secondary cord; **IP:** infrasutural primary cord (primary cord on subsutural ramp); **P1:** shoulder cord; **P2-P6:** primary cords of the convex part of the teleoconch whorl; **s1-s6:** secondary ords of the convex part of the teleoconch whorl (example: s1 = secondary cord between P1 and P2;

s2 = secondary cord between P2 and P3, etc.); **ADP:** adapertural primary cord on the siphonal canal; **MP:** median primary cord on the siphonal canal; **ABP:** abapertural primary cord on the siphonal canal.

Fig. 1. Simplified bathymetric map of the southwestern Indian Ocean banks, showing the localities mentioned in the text. Stippled area, 0-100 m; thin intermediate line, 200 m isobath; thick line, 500 m isobath. Scale line 500 kilometers (from Bouchet & Bail, 1991).



Figs 2-3. Spiral cord morphology
2. *Haustellum lorenzi* n.sp., paratype F. Lorenz.
3. *Chicoreus (Triplex) janae* n.sp., holotype MNHN 26871.

SYSTEMATICS

Family **Muricidae** Rafinesque, 1815
Subfamily **Muricinae** Rafinesque, 1815
Genus ***Haustellum*** Schumacher, 1817
Type species by original designation: *Murex haustellum* Linnaeus, 1758, Indo-West Pacific.

Haustellum lorenzi n. sp.
Figs 4-11

Type material. Holotype Muséum national d'Histoire naturelle, Paris, France, MNHN 26870, Nazareth Bank, dredged dead in 400 m, some time in the 1980s; 1 paratype F. Lorenz, same locality.

Type locality. Nazareth Bank, dredged dead in 400 m, some time in the 1980s.

Distribution. Currently only known from the type locality.

Description. Shell medium sized for the genus, up to 129.4 mm in length (paratype); teleoconch whorls broad, rounded, weakly spinose, nodose, siphonal canal long, narrow. Subsutural ramp broad, strongly sloping, convex.
Creamy white with light brown blotches on subsutural band, between axial nodes of P2 cord, between last primary abapical cord and ADP and against a few other nodes of convex part of last teleoconch whorl.
Spire high with 2.5 protoconch whorls and up to 6 broad, rounded, weakly shouldered, slightly nodose teleoconch whorls. Suture impressed. Protoconch large, broad, whorls rounded, smooth. Width holotype: 2 mm; paratype: 2.6 mm; length holotype: 2.5 mm; paratype: 3 mm.
Axial sculpture of teleoconch whorls consisting of low, weak, narrow varices, starting at the end of first teleoconch whorl. Other axial sculpture of very low, broad ribs, more apparent when crossing some spiral cords; 3 or 4 ribs from second to last whorl, more conspicuous on first whorls, very low and broad on penultimate and last whorls. Spiral sculpture of low, narrow, nodose, primary, secondary and tertiary cords and numerous threads. P1-P3 cords obviously apparent on first teleoconch whorl; P1 decreasing in strength on following whorls, to become almost obsolete on last whorl, with short spine starting from fourth whorl, increasing in length and breadth on antepenultimate, penultimate and last whorls; P2 cord growing larger than P1, more conspicuous on last whorl, giving rise to elongate nodes where crossing axial ribs; similar elongate nodes present on two or three abapical spiral cords, probably P4, s4 and P5. Other spiral sculpture consisting of primary and secondary cords of same strength and numerous tertiary cords and threads, up to ADP. Ontogeny unknown.
Aperture large, roundly ovate. Columellar lip narrow, extremely projecting, free-standing, flaring, smooth, adherent at adapical extremity. Anal notch moderately deep, narrow. Outer lip smooth, smooth within. Siphonal canal long, slightly broken at tip in both specimens, narrow, straight, open, with a single, long, acute ADP spine, otherwise completely smooth.

Etymology. This species is named for Mr. Felix Lorenz who procured the material used in this article.

Remarks. This remarkable new *Haustellum* species differs strongly from any other known Recent or fossil species (Ponder & Vokes, 1988; Houart, 1999; Merle et al., 2011) in having a particularly large, bulbous and broad protoconch (Figs 6 & 11), indicating intracapsular larval development and in having a peculiar long spine originating from the reduced P1 spiral cord and another extending from the ADP cord. The shell is also particularly light compared to other species. It is quite impossible to distinguish the primary from the secondary cords starting from P2 to P6 and between P6 and ADP without knowing the ontogeny, even when comparing it with other *Haustellum* species.

Genus ***Chicorens*** Montfort, 1810
Subgenus ***Triplex*** Perry, 1810
Type species by monotypy: *Triplex foliatus* Perry, 1810 (= *Murex palmarosae* Lamarck, 1822), Indo-West Pacific.

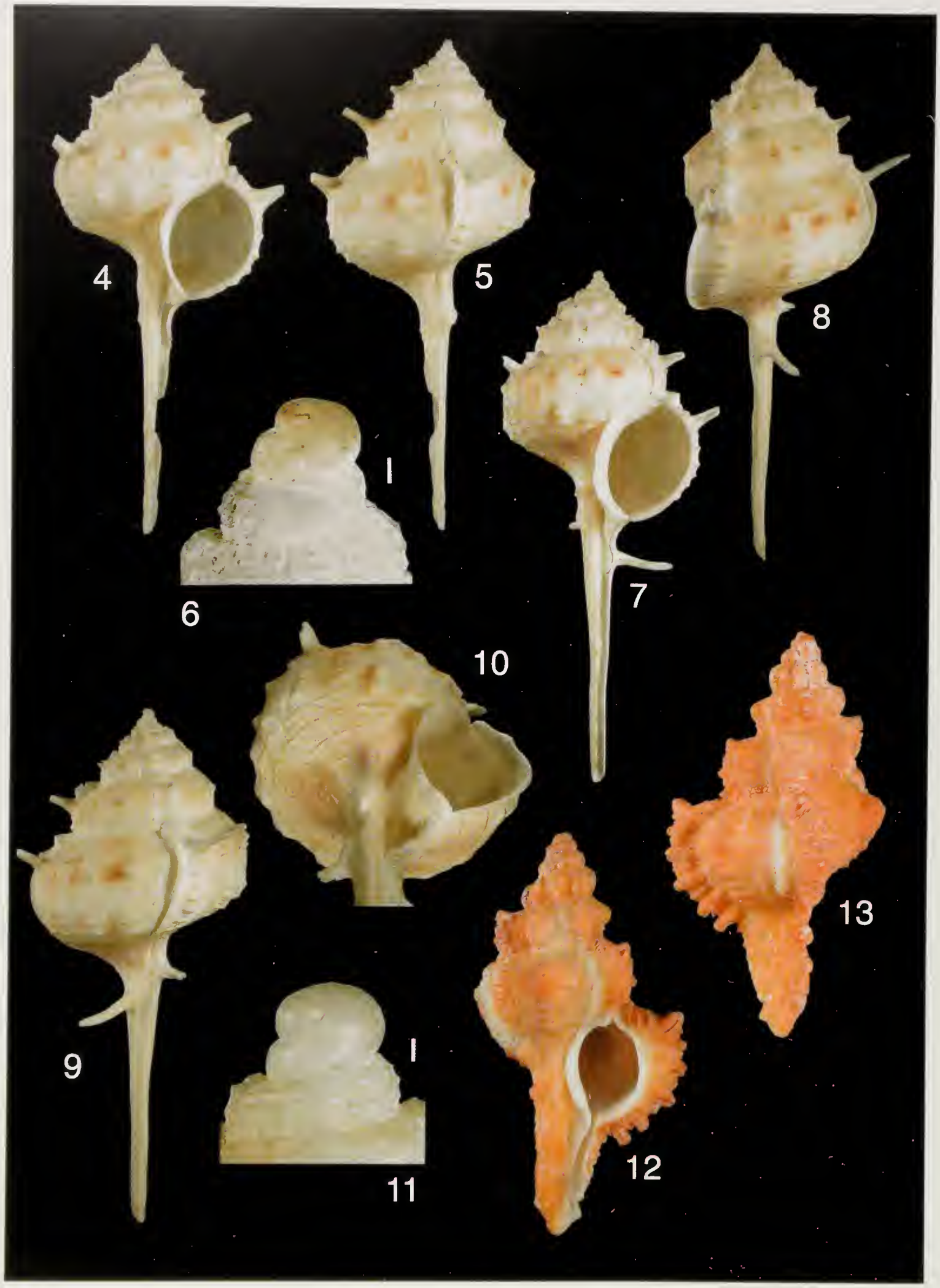
Chicorens* (*Triplex*) *janae n.sp.
Figs 12-13, 14-15

Type material. Holotype Muséum national d'Histoire naturelle, Paris, France, MNHN 26871, northern tip of the Cargados Carajos Shoals, outer side of Ile Puits à Eau, 16°39′ S, 59°34′ E; 1 paratype F. Lorenz, northern part of the Cargados Carajos Shoals, Ile Raphaël, 16°27′ S, 59°37′ E, both collected by F. Lorenz.

Type locality. Northern part of the Cargados Carajos Shoals, outer side of Ile Puits à Eau, 16°39′ S, 59°34′ E, beached.

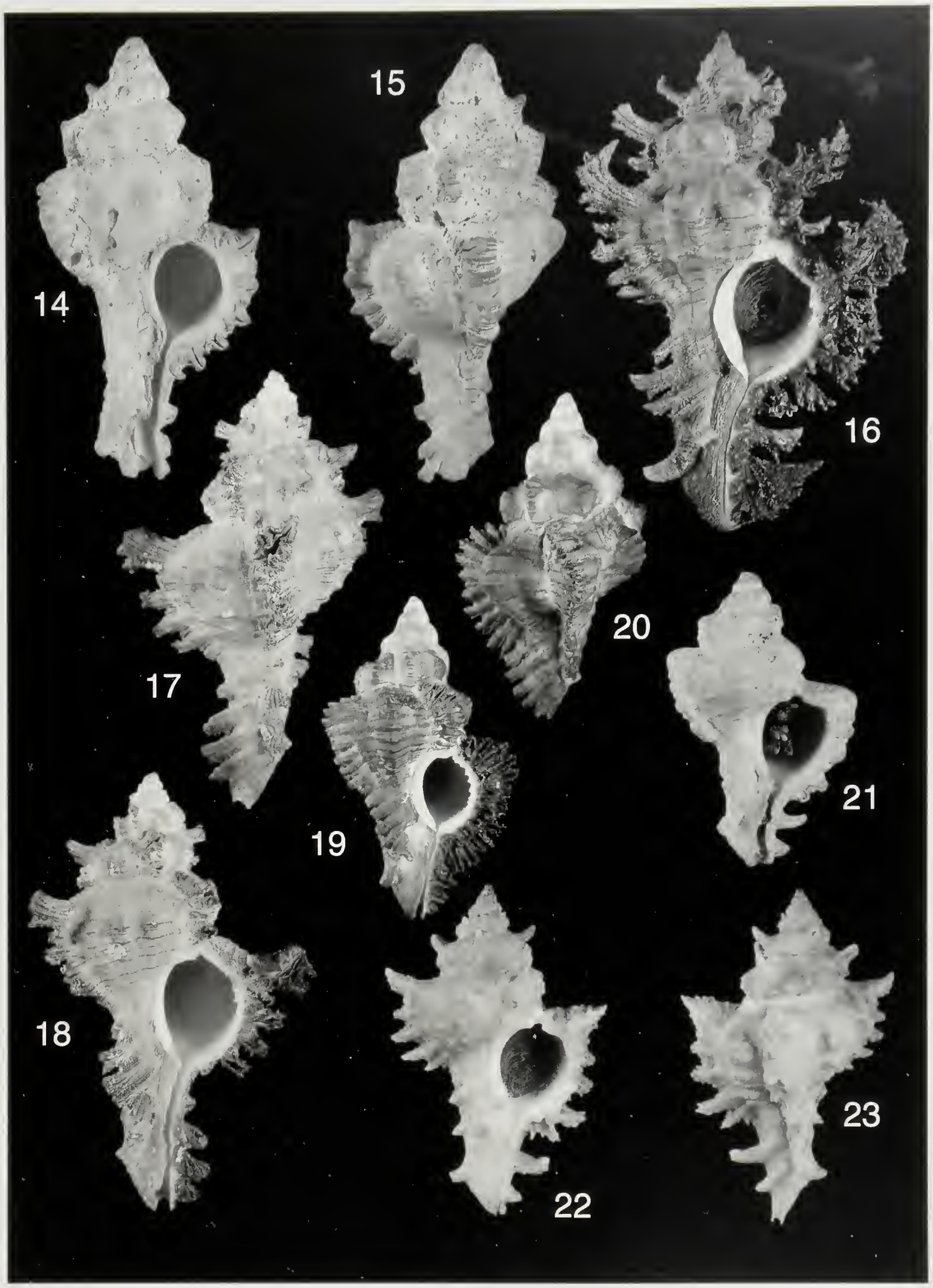
Distribution. Currently only known from the type material.

Description. Shell medium sized for the subgenus, up to 67.8 mm in length (paratype), narrow, heavy, nodose. Subsutural band broad, weakly sloping, very weakly concave or convex.
Light tan or orange. Aperture white.
Spire high, teleoconch of up to 7+ strongly shouldered, nodose, whorls. First teleoconch whorls eroded. Suture impressed. Protoconch eroded.
Axial sculpture of teleoconch whorls consisting of 3 moderately high, narrow, rounded, frondose varices; each varix with short, open, blunt primary spines. Other axial sculpture of 1 or 2 intervarical nodes. Last



Figures 4-13 (scale bars: 500 µm)

4-11. *Haustellum lorenzi* n. sp.
4-6. Nazareth Bank, dredged dead in 400 m, holotype MNHN 26870, 122.6 mm; **7-11.** paratype F. Lorenz, 129.3 mm; **12-13.** *Chicoreus (Triplex) janae* n. sp. Northern of the Cargados Carajos Shoals, outer side of Ile Puits à Eau, 16°39′0.0″S 59°34′0.0″E, beached, holotype MNHN 26871, 62.6 mm.



Figures 14-23

14-15. *Chicoreus (Triplex) janae* n. sp. Northern of the Cargados Carajos Shoals, Ile Raphaël, 16°27′0.0″S, 59°37′0.0″E, beached, paratype F. Lorenz, 67.8 mm; **16-18.** *Chicoreus (Triplex) bourguignati* (Poirier, 1883); **16.** Kenya, RH, 62.6 mm; **17-18.** Ethiopia, collected dead, RH, 67.5 mm; **19-20.** *Chicoreus (Triplex) monicae* Bozzetti, 2001. Madagascar, RH, 57.3 mm; **21-23.** *Chicoreus (Chicoreus) austramosus* Vokes, 1978, Transkei, South Africa, RH; **21.** Collected dead, 44.9 mm; **22-23.** 55.3 mm.

whorl with a high node, close to preceding varix and a second, much lower one, near succeeding varix. P1 spine broadest, P2 shortest and narrow, P3-P6 almost of same strength and length. Spiral sculpture of low, weak, rounded, narrow, nodose primary, secondary and tertiary cords and narrow lirae. Last teleoconch whorl with adis, IP, abis, followed by P1, s1, P2, s2, P3, s3, P4, s4, P5, s5, P6, s6, ADP, MP, ABP, abs, with additional tertiary cords and narrow threads. Antepenultimate and penultimate whorls with adis, IP, abis and visible P1, s1, P2, s2, P3 and additional tertiary cords between primary and secondary cords.
Aperture large, broadly ovate. Columellar lip narrow, smooth, rim partially weakly erect, adherent at adapical extremity, with strong parietal tooth at adapical extremity, anal notch moderately deep, narrow. Outer lip with weak striae within. Siphonal canal long, relatively narrow, straight, open, with short, broad, abapically bent, frondose spines.

Etymology. At the request of Felix Lorenz, I am pleased to name this new species after his partner, Jana Kratzsch.

Remarks. Even though both specimens are worn, they can be separated without too much difficulty from other *Chicoreus* species occurring in the Indian Ocean or more widely, in the Indo-West Pacific (Houart, 1992).
Chicoreus (*Triplex*) *janae* differs from other species in having strongly shouldered teleoconch whorls with only a very weakly sloping, broad, subsutural ramp, especially obvious on the last teleoconch whorl, being almost tabulate, in having a strong, relatively high and broad intervarical node, closer to the preceding varix, occasionally with a second, much lower one, and in having a long, relatively narrow, siphonal canal.
The closest species, *C.* (*T.*) *bourguignati* (Poirier, 1883) (Figs 16-18), differs in having a less shouldered shell with less tabulate whorls, a less impressed suture, and in having 2 or 3 low intervarical ribs.
Chicoreus (*T.*) *monicae* Bozzetti, 2001 (Figs 19-20) from Madagascar also has a single, broad, intervarical node but consistently differs in having a lower spire, an adpressed suture and a shorter, comparatively broader siphonal canal.
Chicoreus (*T.*) *brunneus* (Link, 1807) and *C.* (*T.*) *groschi* Vokes, 1978 also differ in having less tabulate teleoconch whorls, a comparatively lower spire and a broader, obviously shorter, siphonal canal.
Chicoreus (*Chicoreus*) *australiosus* Vokes, 1978 (Figs 21-23) from the Transkei coast in South Africa, also has tabulate teleoconch whorls but constantly differs in having a lower spire, a much shorter siphonal canal with different ornamentation, and chiefly, in having a labral tooth, characteristic of *Chicoreus* s.s. species. This tooth is visible on the apertural varix but also on previous varices. It is obviously absent in *C. janae* n. sp.
Both worn and live collected specimens of the comparative material are illustrated to give a more reliable comparison with the new species.

ACKNOWLEDGEMENTS

I am very grateful to Felix Lorenz, Buseck, Germany for the loan of this material, the gift of the holotype of both species and his comments on the manuscript, to Philippe Bouchet, Muséum National d'Histoire Naturelle for useful comments about the southwestern Indian Ocean banks and for the permission to use his map published in 1991 and to Gilberto Marani (MNHN) for the PDF of this map. Thanks also to John Wolff, Lancaster, Pennsylvania, USA, for checking the English text, and to Eric le Court de Billot, Rivière Noire, Mauritius.

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Mayr, E. 1989. Attaching names to objects. In: *What the philosophy of biology is : essays for David Hull* (M. Ruse, ed.), Klumer Academic, Dordrecht: 235-243.
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Papers describing new species (s[illegible] [illegible] [illegible] [

NOVAPEX/SOCIETE

(suite)

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NOVAPEX / Société

Prochaines activités de la SBM

Claude VILVENS

Lieu de réunion : **A partir de 14h, à notre local habituel :**

Salle "Memling" (1er étage - ascenseur) - Rue de Genève, 470b – Schaerbeek (Bruxelles)

Pour rappel, ***pause en janvier*** *pour éviter les déplacements périlleux sur des routes enneigées ou verglacées !*

SAMEDI 22 FEVRIER 2014

Marc Alexandre : L'élevage des Haliotis

On sait notre trésorier passionné par les Haliotis. Au point d'en élever ? Peut-être pas lui-même mais ces nombreux séjours en Bretagne lui ont permis d'approcher le cercle très fermé des éleveurs d'Ormeaux (comme on appelle les Haliotis là-bas). Un monde tout à fait inconnu pour la plupart d'entre nous – donc, à ne pas rater !

***

***

SAMEDI 22 MARS 2014

Tout le monde : ASSEMBLÉE GÉNÉRALE DE LA SBM.

-- Voir annonce officielle page suivante --

Le bilan, les projets, les souhaits, les critiques (pas trop quand même) ... Tout le monde a la parole !

Nous vous attendons donc nombreux … d'autant que cette Assemblée générale se termine toujours par un petit verre ☺ … En effet, si il convient de rappeler l'importance de cette Assemblée, il faut aussi en souligner le côté convivial.

***

Réservez *déjà dans vos agendas le* ***26/4/2014***, le ***24/5/2014*** (excursion) *et le* ***14/6/2014***.

.

***

Nous vous souhaitons une très bonne année 2014 !!!

Pour les informations de dernière minute :

Sur Internet :

http://www.societe-belge-de-malacologie.be/

L'Assemblée Générale de la Société Belge de Malacologie

Conformément aux statuts de la Société Belge de Malacologie A.S.B.L.,une **Assemblée Générale** de l'Association se tiendra le samedi **22 mars 2014** à **14h** en son local de la Rue de Genève, 470b à Scharbeek - Bruxelles.

Ordre du jour

- Rapport moral
- Comptes de l'exercice 2013
- Prévisions budgétaires pour l'exercice 2014
- Election ou réélection d'administrateurs (les **candidatures**, démissions ou **demandes de réélection** doivent parvenir au Président actuel pour le 15 mars 2014 au plus tard).
- Publications de la Société
- Cotisations 2015
- Divers

Nos membres sont instamment priés d'assister à cette Assemblée Générale

Nous rappelons que, conformément à l'article 6 des statuts, tout membre peut se faire représenter par un autre membre, moyennant procuration écrite. Un seul mandataire ne peut cependant recevoir que trois mandats de l'espèce.

Pour le conseil d'administration,

A. LANGLEIT
Secrétaire

C. VILVENS
Président

Novapex/Société : la publication généraliste de la SBM

Rédacteurs en chef : Claude Vilvens & Etienne Meuleman

Tous les articles généraux sont les bienvenus pour Novapex/Société ☺ !

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- police de caractères Times New Roman;
- texte de taille 10, titres de taille 12;
- interligne simple;
- toutes les marges à 2,5 cm;
- document en une seule section;
- pas de mode colonne;
- photos en version électronique JPG ou PNG.

Merci pour les Scribes ;-) ! N'hésitez pas à demander une page avec en-tête pour cadrer au mieux vos travaux (vilvens.claude@skynet.be ou e.meuleman@skynet.be).

Note concernant la présence de *Monetaria annulus* (Linnaeus, 1758) dans le Golfe de Gabès

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MOTS-CLEFS : *Monetaria annulus* - Golfe de Gabès - Mollusques invasifs - Mer Méditerranée

KEY-WORDS : *Monetaria annulus* - Gulf of Gabes - Alien molluscs - Mediterranean Sea

RÉSUMÉ

Note concernant la présence de *Monetaria annulus* dans le Golfe de Gabès (Tunisie) : informations historiques, rappel de la capture de mollusques vivants au printemps 2006 au large de l'archipel des îles Kerkennah et à Tripoli par une équipe de l'Institut National Agronomique de Tunis et de la faculté des Sciences de Tripoli, et rapport de la collecte d'une coquille vide à Djerba (Tunisie) en septembre 2006 par les auteurs.

ABSTRACT

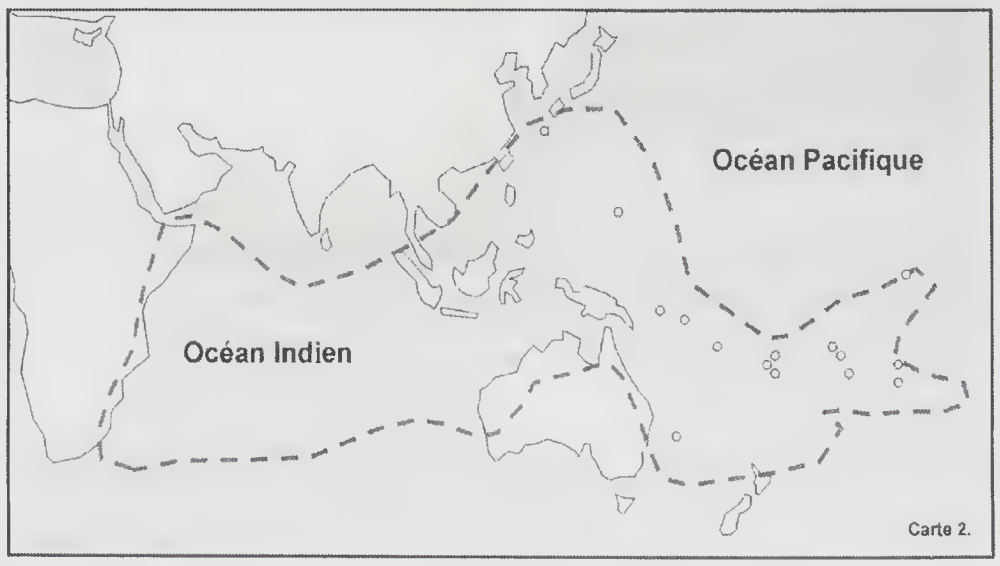
Note concerning the presence of *Monetaria annulus* in the Gulf of Gabes (Tunisia): historical information, reminder of the catch of live molluscs made in the spring of 2006 off the Kerkennah archipelago and off Tripoli by a team from « l'Institut National Agronomique de Tunis et de la faculté des Sciences de Tripoli » and report of the find of an empty shell on a beach in Djerba (Tunisia) in September 2006 by the authors.

NOTE

A l'occasion d'un échange d'informations concernant les mollusques marins des îles Kerkennah (Tunisie), nous sommes entrés en contact avec le Docteur Jeanne Zaouali (Tunisie) qui a eu l'amabilité de nous transmettre quelques références dont nous ignorions l'existence. Il s'agit entre autres d'un article de Ben Souissi & Zaouali (2007) intitulé « Sur la présence de nouvelles espèces exotiques dans la Grande et la Petite Syrte ». Il relate la récolte de *Cypraea annulus* (Linnaeus, 1758) (= *Monetaria annulus* Linnaeus, 1758), *Strombus persicus* (Swainson, 1821) [= *Conomurex persicus* (Swainson, 1821)] et *Erosaria turdus* (Lamarck, 1810) dans les eaux du Golfe de Gabès - Tunisie (Petite Syrte) et les eaux du Golfe de Syrte - Libye (Grande Syrte).

La mention de *Monetaria annulus* a immédiatement retenu notre attention. En effet, en Septembre 2006, lors d'un voyage de récolte à Djerba, nous avions collecté dans une laisse de mer, à l'est de l'île (Cap Lalla Hadria), un spécimen vide (Fig. 1 a-b-c) de cette espèce (carte 1). La coquille était en excellent état de conservation. Cependant, devant notre étonnement d'avoir trouvé en cet endroit une coquille commune dans l'Indo-Pacifique (Burgess 1970 - carte 2.), nous avions trouvé intéressant de la conserver sans toutefois faire part de la mention de sa récolte, d'autant que la littérature disponible à l'époque la cataloguait « d'apport anthropique en Méditerranée ».

Carte 1.



Carte 2.

Zenetos & al. 2003 dans « CIESM Atlas of Exotic Species in the Mediterranean - Vol. 3 - Molluscs », mentionnent que *Monetaria annulus* ne doit pas être considéré comme mollusque invasif vivant en Méditerranée, mais plutôt comme le fruit d'un apport anthropique (Réquien 1848, Locard 1886).

- **Réquien (1848)**, dans son ouvrage « Catalogue des coquilles de l'île de Corse » cite « *Cypraea annulus* (St Florent, Ajaccio) Rare » sans autre commentaire.

- **Locard (1886),** dans son ouvrage « Prodrome de malacologie française » mentionne, outre la présence en France des genres *Trivia*, *Luria* et *Zonaria* celle du genre *Monetaria* : *Monetaria annulata* : Plage du Foz (dans les Bouches-du-Rhône), Saint-Tropez (dans le Var) et Cannes (dans les Alpes-Maritimes).
En guise de commentaire, il mentionne « *Quelques auteurs ont contesté l'existence de ces différents genres de la famille des Cypraeidae sur les côtes de France. Ils ont prétendu que si on avait pu en rencontrer quelques coquilles, elles avaient dû servir comme monnaie ou comme amulettes à quelques marins revenant de l'étranger. Nous pouvons affirmer de la manière la plus formelle que deux au moins de ces genres, les genres* Luria *et* Zonaria *vivent et se reproduisent sur les côtes de France, dans la Méditerranée. Nous possédons un très bel échantillon de* Monetaria annulus, *recueilli à Cannes en 1884, et qui est tellement frais que l'on croirait que l'animal vient d'en être récemment enlevé.* »

Telles étaient les informations disponibles en 2006, lorsque nous avons récolté un exemplaire de *Monetaria annulus* à Djerba. Cette île étant notamment fréquentée par des touristes, nous avions estimé que cette collecte pouvait être le résultat d'un apport anthropique récent. L'une ou l'autre personne avait dû s'y défaire de cette coquille, elle s'était retrouvée au bord du rivage et par un heureux hasard nous l'avions retrouvée. Cela n'avait rien d'impossible et cela nous rappelait une expérience antérieure (Delongueville & Scaillet 2000) au cours de laquelle nous avions vu tomber d'un filet, lors de son nettoyage dans le port du Conquet - Bretagne, un spécimen de *Bufonaria rana* (Linnaeus, 1758) (coquille de l'Océan Pacifique) couvert de bryozoaires et d'Anomiidae vivants.

Ben Souissi & Zaouali, 2007, nous rendent quelque peu dubitatifs quant à nos conclusions de l'époque. Ces auteurs mentionnent la collecte de spécimens vivants de *Monetaria annulus* au printemps 2006 sur l'infra-littoral supérieur au nord de l'archipel de Kerkennah - Tunisie (3 spécimens) et au large de la ville de Tripoli - Lybie (1 spécimen), ce qui les autorisent à penser que l'espèce est bien présente dans cette région aux environs du Golfe de Gabès. Une autre espèce de cyprée, *Erosaria turdus* (Lamarck, 1810) y a trouvé sur plus d'une dizaine d'années un environnement propice à son installation et à son ancrage apparemment définitif (Delongueville & Scaillet 2004 - Heiman 2009). Les conditions écologiques du Golfe de Gabès rassemblent nombre de paramètres favorables à une telle implantation : faible bathymétrie, faible pluviosité, faible apport en eaux douces de provenance continentale, une forte salinité (37,5 à 39,25 ‰) et une haute température des eaux (14 à 29°C) (Cecalupo & al., 2008). L'activité gazière et pétrolière dans cette région de la Méditerranée pourrait plaider pour un apport lié à un fort trafic maritime amenant des eaux de ballast potentiellement riches en source d'introduction d'espèces exotiques (shipping). Ce qui avait été favorable à l'implantation d'*Erosaria turdus* pourrait aussi l'être pour *Monetaria annulus*.

Zenetos & al. 2010 et 2012 ont réalisé de nombreuses mises à jour de la liste des espèces invasives en Méditerranée. Elles complètent les données publiées par le CIESM en 2003 dans le volume consacré aux mollusques. Dans la liste des espèces invasives publiée en 2010 et complétée en 2012, mention y est faite de *Monetaria annulus* dont, selon les auteurs, la présence en Méditerranée reste toujours sujette à caution.

Le rapport de notre collecte à Djerba de *Monetaria annulus* en 2006 constitue un élément supplémentaire à verser au dossier d'appartenance ou non de *Monetaria annulus* à la faune actuelle du Golfe de Gabès.

Nous attendons avec impatience de nouvelles relations de captures vivantes dans cette région et invitons nos lecteurs à nous faire parvenir ce type d'information, si tel devait être le cas.

REMERCIEMENTS

Nous remercions Madame le Docteur Jeanne Zaouali de Tunisie pour les informations et les discussions concernant la faune malacologique du Golfe de Gabès.

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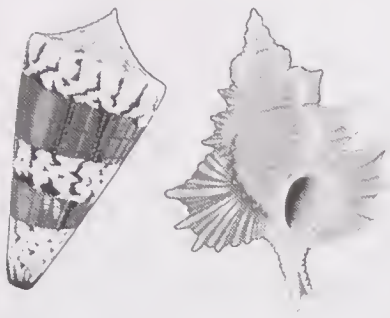
Fig. 1 (a - b - c)
***Monetaria annulus* - Cap Lalla Hadria**
(Djerba - TU)
6,9 x 11,5 mm



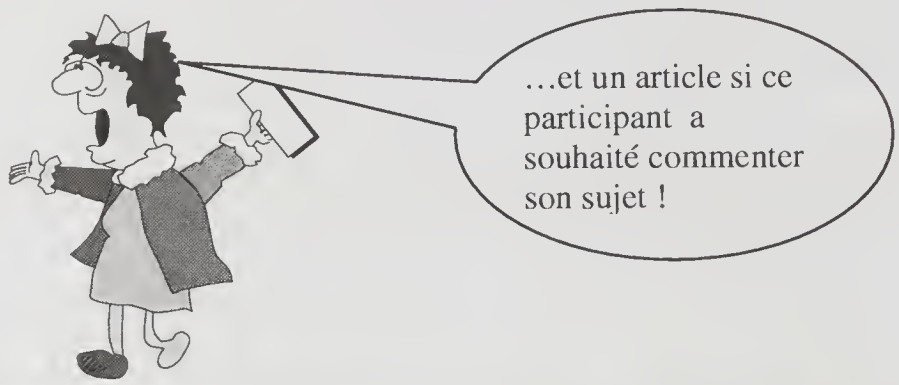
L'exposition 2013 de la S.B.M.

Etienne MEULEMAN
Photos: Roland Houart, Etienne MEULEMAN

Avec les contributions écrites de Johann Delcourt, Christiane Delongueville, Roland Houart, Etienne Meuleman, Roland Scaillet et Claude Vilvens

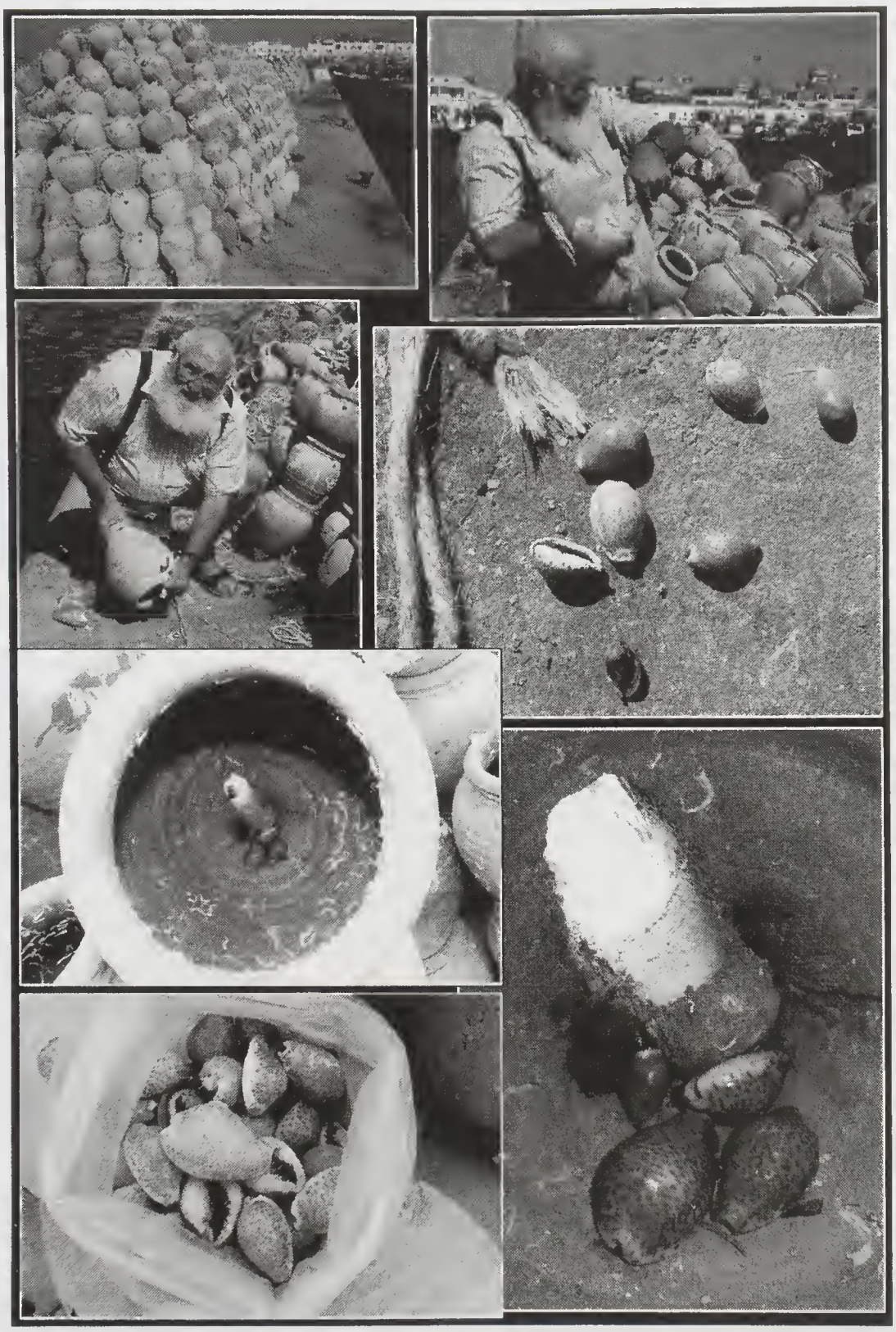
Et la participation d'Annie Langleit et Rony Maes

La réunion de la Société Belge de Malacologie a été consacrée ce **12 octobre 2013** à son Exposition annuelle: ses membres ont présenté quelques coquilles intéressantes de leur collection et les ont commentées avec passion et originalité. Nous n'étions pas légion, mais comme on dit, mieux vaut la qualité que la quantité ! Pour rappel, l'exposition est destinée à tout le monde et tout le monde est donc le bienvenu.
Comme chaque année, nous allons relater les divers thèmes abordés. Je vous invite à suivre le guide et à vous laisser emporter par la douce musique des coquillages. Un grand merci aux visiteurs venus découvrir les merveilles le la malacologie. En voiture !



Christiane Delongueville & Roland Scaillet

Le secret de l'Octopus - Le trésor des Gargoulettes



Bien qu'en déclin, la pêche artisanale aux poulpes (*Octopus vulgaris* Cuvier, 1797) se pratique encore en Tunisie à l'aide d'une technique ancestrale héritée des Romains consistant à immerger plusieurs dizaines de pots en terre cuite percés à leur base et reliés entre eux par une corde: les gargoulettes. Le poulpe, à la recherche d'un abri, s'installe dans les gargoulettes qui sont relevées régulièrement par le pêcheur et remises à l'eau aussitôt l'animal capturé. En Tunisie, cette pêche réglementée (poids minimum de la pieuvre 1kg) se pratique dans le golfe de Gabès en eaux peu profondes (2 à 5 mètres), généralement de la mi-octobre à la fin avril, en dehors de la saison de reproduction des céphalopodes.

Durant les 6 mois que dure la saison de pêche, des mollusques gastéropodes peuvent aussi pénétrer la gargoulette [*Erosaria turdus* (Lamarck, 1810) - Cypraeidac, par exemple] et s'y retrouver piégés lors de la période de pause, lorsque les gargoulettes sont entreposées sur les quais. Le poulpe qui se nourrit entre autres de gastéropodes et de bivalves peut aussi laisser les reliefs de son repas (coquilles vides) dans sa cachette temporaire. Les gargoulettes peuvent servir de mini-drague lorsque les pots sont ramenés à terre à l'issue de la saison de pêche. Des mollusques peuvent aussi s'incruster sur les parois des pots en terre cuite (Chamidae, Anomiidae, Vermetidae).

Un examen attentif du contenu des gargoulettes en période de pause peut amener à la collecte de plus d'une vingtaine d'espèces de bivalves et de gastéropodes, pour ne parler que des espèces macroscopiques et de bien d'autres encore si l'on s'intéresse aussi au contenu des sédiments dragués sur le fond.

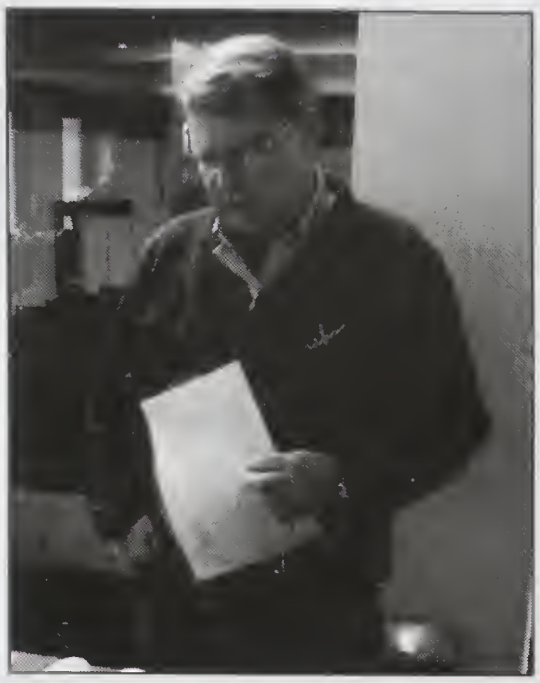
Annie Langleit

Quelques-uns de mes plus beaux Pectinoidea

Quelques-uns de mes plus beaux Pectinoidea, juste pour le plaisir des yeux.

Roland Houart

Les Veneridae du nouveau continent

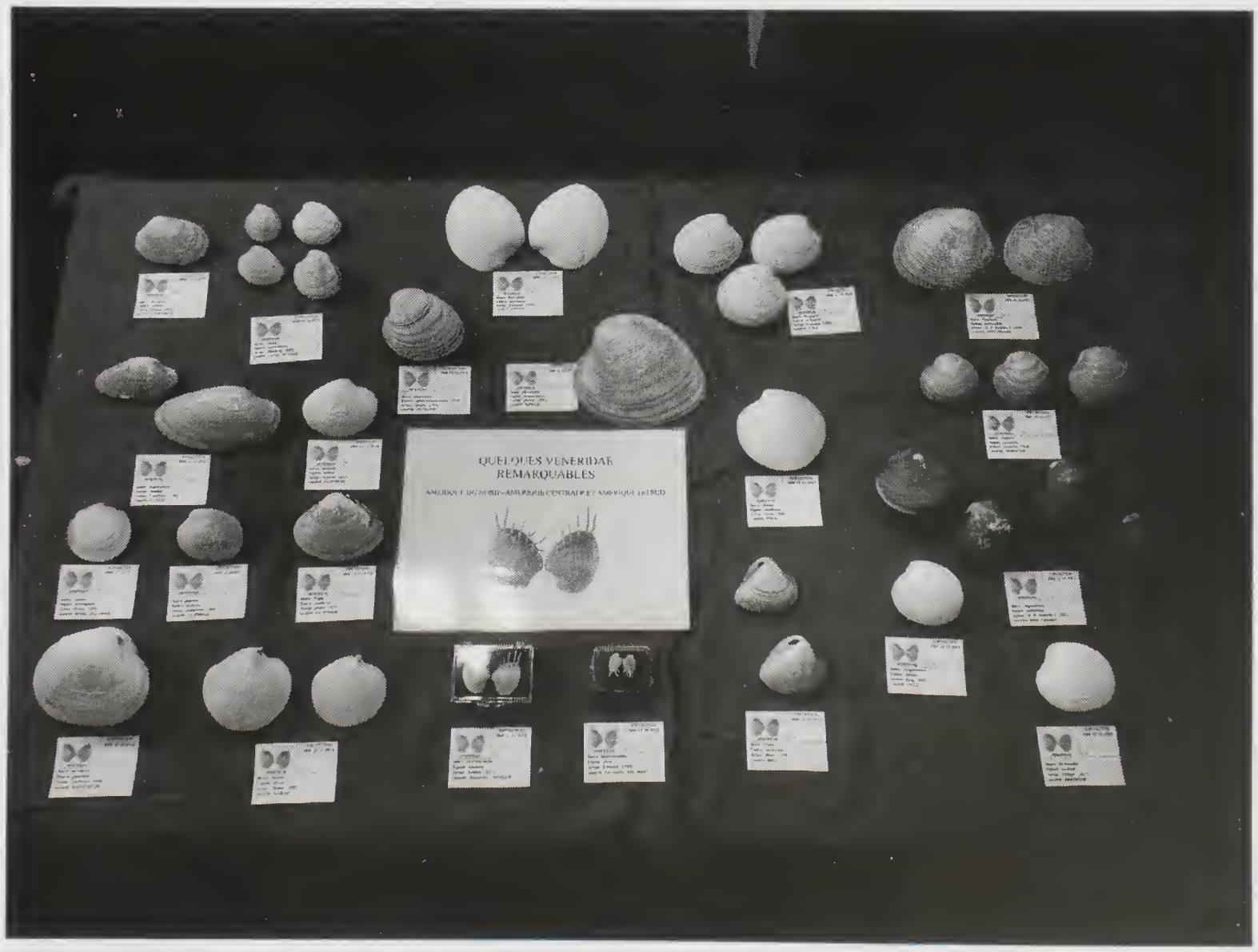


Les Veneridae comptent plus de 500 espèces actuelles réparties dans quelques treize sous-familles et une myriade de genres. Plusieurs espèces ont été, et sont encore consommées de par le monde (sous le nom de palourdes ou clams). Personnellement je n'en ai jamais mangé…

Lors de l'expo en 2010 j'avais déjà présenté les Veneridae d'Europe et un article avait à cet effet également été publié dans Novapex/Société.

Pour notre 28ème exposition je vous ai présenté quelques espèces remarquables, de par leur taille et/ou par leur forme. Cette année je vous ai montré quelques coquilles d'Amérique du Sud, d'Amérique Centrale et d'Amérique du Nord. Uniquement pour le plaisir des yeux.

L'année prochaine je vous présenterai probablement quelques espèces peuplant l'Indo-Pacifique. Je vous promets un festival de formes et de couleurs!



Johann Delcourt

Les Hemicycla (Helicidae) des Canaries : exemple de radiation évolutive en milieu insulaire

Les archipels sont des lieux privilégiés pour l'observation d'une profusion d'espèces endémiques. Ils doivent cette particularité à leur isolement géographique des zones continentales, mais aussi l'isolement des îles entre-elles. Enfin, à l'échelle même d'une île, les différents climats et les reliefs peuvent constituer des barrières pouvant conduire eux-aussi à l'isolement de populations en fonction de leurs capacités de dispersion. Toutes ces conditions, couplées à l'histoire géologique et climatique même de chaque île, sont le terreau pour un processus de spéciation très accentué, où chaque population peut évoluer indépendamment ; et c'est particulièrement vrai pour les mollusques terrestres.

L'archipel des Canaries est constitué de 7 îles principales d'origine volcanique (d'est en ouest et de la plus ancienne à la plus récente : Lanzarote, Fuerteventura, Gran Canaria, Tenerife, La Gomera, La Palma et El Hierro). Ici, les mollusques terrestres ont connu des radiations évolutives particulièrement marquées. L'archipel accueille plusieurs centaines d'espèces dont quelques genres (*Napaeus*, *Canariella* et *Hemicycla*) possèdent facilement plusieurs dizaines d'espèces chacun.

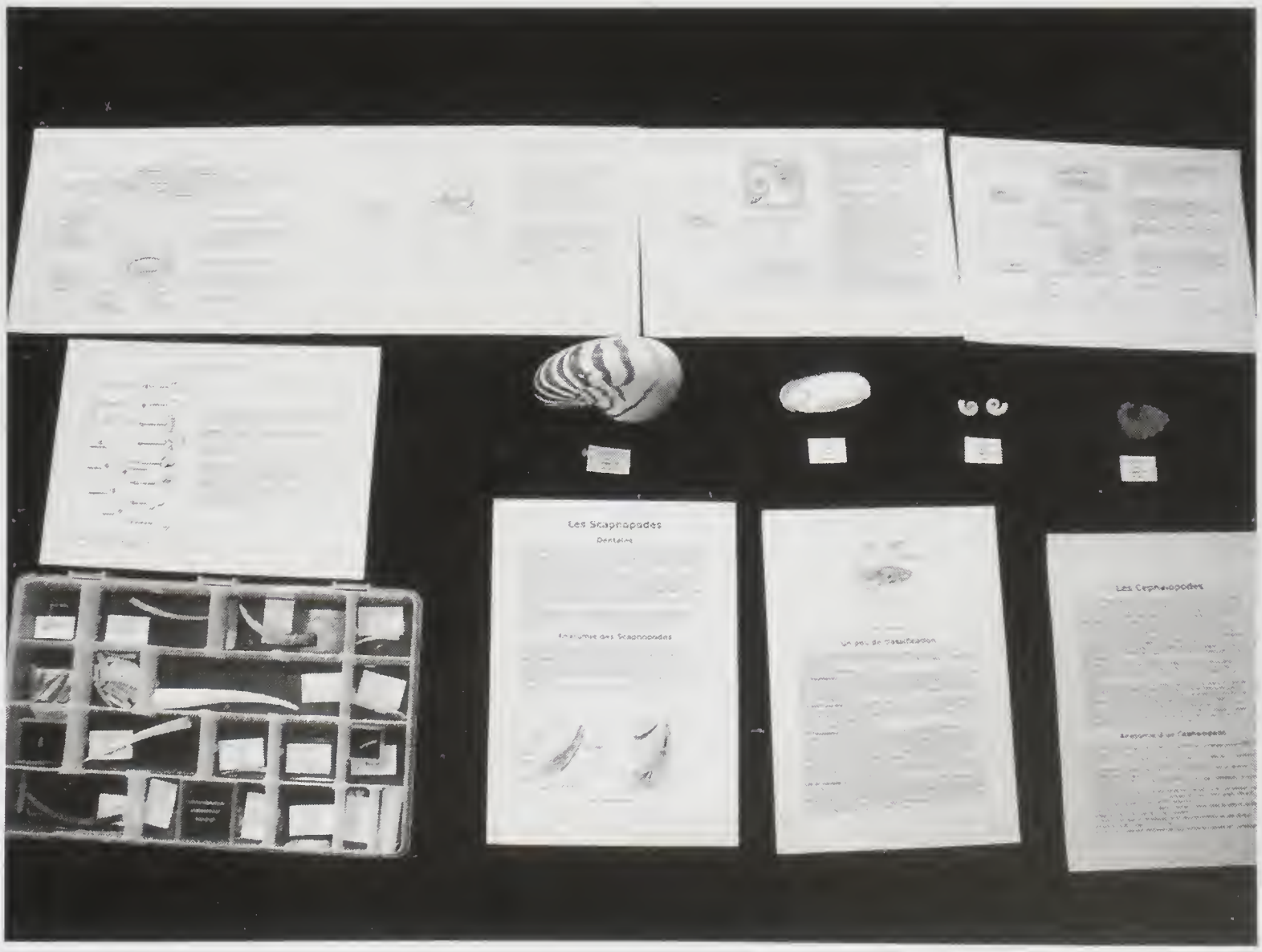
Dans le cadre de l'exposition, j'ai souhaité illustrer cette diversité avec les *Hemicycla* (Helicidae). Ce genre endémique à l'archipel, se rencontrent sur l'ensemble des îles avec environ 45 espèces. La quasi-totalité des espèces sont endémiques à une seule île. *H. sarcostoma* fait partie des exceptions, étant présent sur Lanzarote et Fuerteventura. Très souvent, les espèces sont localisées que sur une partie limitée de leur île, certaines ne sont même connues que sur 3-4 km² comme *H.diegoi*, *H. mascaensis* et *H.efferata*. On parle alors de micro-endémisme. On constatera que les plus anciennes et les plus récentes îles sont les moins riches en espèces (initial de l'île et nombre d'espèces du genre : L : 2, F :3, GC :8, T : 16-17 ;LG : 11-13, LP : 3 ; EH : 3). Signalons que 6 espèces ont été décrites depuis 2006, dont *H.diegoi* en 2011 sur Tenerife et *H. fuerterronquensis* en 2012 sur La Palma, et que l'existence d'autres espèces encore inconnues pour la science ne semblent pas impossible. Par exemple, dans la région d'Anaga (nord de Tenerife), *H. bidentalis*, espèce abondante de la laurisylve (forêt subtropicale humide d'altitude) pourrait être un complexe de plusieurs espèces.

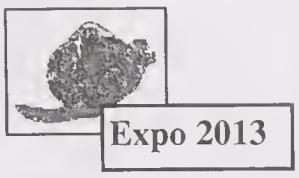
Cette exposition est ici aussi l'occasion d'attirer l'attention sur la vulnérabilité de ces populations. En effet, de grandes menaces pèsent sur un certain nombre d'espèces, surtout pour les espèces de basses altitudes, victime de l'urbanisation et des activités touristiques. Dans certains cas, le surpâturage des chèvres et la prédation par les rats mettent à mal la survie de certaines espèces. Bien que beaucoup d'espèces soient inscrites dans les différentes catégories de la liste rouge de l'UICN, l'état de leur population est souvent mal connu.

Quelques espèces d'*Hemicycla* pour illustrer leur diversité morphologique et leur île respective (g.à de, ht en bas): *H. gaudryi* (Gran Canaria), *H. bidentalis* (Tenerife), *H. bethencourtiana* (Tenerife), *H. berkeleii* (Gran Canaria), *H.psathyra* (Gran Canaria) et *H.plicaria* (tenerife). (coll. et photos : J.Delcourt, tailles relatives non respectées)

Rony Maes

Un choix de quelques coquilles de céphalopodes et scaphopodes





Claude Vilvens

Quelques-uns de mes plus beaux escargots

"D'où provient ce bel escargot ?" Telle était la question posée sur la table proposée par notre président.
En fait, se trouvaient sur la table 36 mollusques terrestres "exotiques", donc non européens, soigneusement sélectionnés et provenant de tous les autres continents. A côté chaque coquille figurait un numéro : chacun pouvait noter son idée sur l'origine de chacune d'entre elles. Autrement dit, un "mini-quiz" ...
Une liste facilement accessible permettait ensuite de trouver pour chaque numéro, outre l'origine, le nom complet de l'espèce exposée.
De plus, les participants étaient encouragés à élire les 6 espèces qui, à leur point de vue, méritaient de figurer sur le futur poster "Mollusques terrestres exotiques" de la S.B.M.

En définitive, un stand éminemment "interactif" ;-)

Espèces exposées :

1 - ***Polygyratia polygyrata*** (Born, 1780) - Brésil
2 - ***Ampelita sepulchris funebris*** (Morelet, 1877) - Madagascar
3 - ***Cyclophorus raffesi*** Broderip & Sowerby, 1829 - Indonésie
4 - ***Chrysalis caniceps*** Bartsch, 1932 - Philippines
5 - ***Clavator obtusatus*** (Gmelin, 1790) - Madagascar
6 - ***Asperitas trochus*** (Müller, 1774) - Indonésie
7 - ***Helicostyla florida*** (Sowerby, 1841) - Philippines
8 - ***Polymita picta*** (Born, 1778) - Cuba
9 - ***Tropidophora carnicolor*** Fulton, 1902 - Madagascar
10 - ***Anostoma octodentatus*** (Fischer, 1807) - Brésil
11 - ***Papuina hedleyei*** (Smith, E. A., 1892) - Indonésie
12 - ***Rhiostoma smithi*** (Bartsch, 1932) - Thaïlande
13 - ***Cochlorina uranops*** Pilsbry, 1898 - Brésil
14 - ***Odontostomus exesus*** Spix, 1827 - Brésil
15 - ***Achatina granulata*** (Krauss, 1848) - Congo

16 - ***Helicostyla grandis*** (Pfeiffer, 1845) - Philippines
17 - ***Helicostyla marinduquensis*** (Hidalgo, 1887) - Philippines
18 - ***Acavus phoenix*** Pfeiffer, 1854 - Sri Lanka
19 - ***Calocochlia pan*** (Broderip, 1841) - Philippines
20 - ***Cyclophorus prietoi*** Hidalgo, 1888 - Philippines
21 - ***Obba listeri*** (Gray, 1825) - Philippines
22 - ***Amphidromus perversus*** (Linné, 1758) - Bali
23 - ***Pleurodonte excellens*** (Pfeiffer, 1852) - République dominicaine
24 - ***Pleurodonte marginella*** (Gmelin, 1790) - Haiti
25 - ***Tropidophora tricarinata bicarinata*** (Sowerby, 1843) - Madagascar
26 - ***Papustyla xanthochila*** (Pfeiffer, 1861) - Iles Salomon
27 - ***Strophocheilus pudicus roseolabris*** Bequaert, 1948 - Brésil
28 - ***Cerion mumia*** f. ***magister*** Pilsbry & Vanata, 1896 - Cuba
29 - ***Pedinogyra hayii*** (Griffith & Pidgeon, 1833) - Australie
30 - ***Megalobulimus oblongus*** (Müller, 1774) - Uruguay
31 - ***Placostylus bovinus*** (Bruguière, 1789) - Nouvelle Calédonie
32 - ***Labyrinthus otis orthorhinus*** Pilsbry, 1910 - Panama
33 - ***Helicostyla lignaria*** (Pfeiffer, 1842) - Philippines
34 - ***Clavator eximius*** (Shutleworth, 1852) - Madagascar
35 - ***Strophocheilus musculus*** Bequaert, 1948 - Uruguay
36 - ***Achatina fulica*** (Bowdich, 1822) - Laos

Précisons enfin que l'espèce la plus plébiscité fut le n°32 !

Etienne Meuleman

Une sélection de quelques volutes

La famille des Volutidae dénombre plus ou moins 200 espèces. La plupart de ces espèces vivent en eaux peu profondes dans les mers chaudes et froides. On retrouve déjà espèces en Europe. Les volutes nous dévoilent des couleurs très variables comme le brun, le blanc, les rouges, l'orange. Bref très variées qui les rendent souvent très attrayantes.

La famille est composée de 43 genres.

Au centre de la photo, vous pouvez découvrir non pas une volute, mais un turbinellidae, en fait une trompette sacrée sénestre chinée sur une brocante. Alors ce bel objet est-il vrai ou faux ? Les avis sont partagés...

Merci à tous et à l'année prochaine avec de nouvelles merveilles à découvrir !

L'excursion du samedi 21 septembre 2013 : le terril du site « Six Périer-Chenoit » à Souvret

Marc ALEXANDRE

Ce site, autrefois occupé par le charbonnage du Six Périer et ses terrils, ont été aménagés en 1995 par la Région wallonne en un superbe espace vert d'une superficie de 30 hectares, doté de 4 kilomètres de promenades, d'espaces de détente, d'un parcours Vita, d'une plaine de jeux, d'un square, de plusieurs parkings, de 2 terrains de football avec vestiaires, d'une halte pour les promeneurs et de plusieurs kilomètres de parcours équestres et cyclistes. Ce lieu réhabilité et dédicacé aux activités de détente pour les habitants de l'entité et les promeneurs de passage est toujours la propriété de la Région wallonne qui en a confié la gestion à l'administration communale de Courcelles.

Le site du « Six Périer-Chanoit »

Le terril

L'excursion a rencontré un franc succès car ce n'était pas moins de 9 membres qui étaient au rendez-vous à la gare de Courcelles Motte.

L'équipe au point de rendez-vous
(Claudine, Roger, Marc, Johann, Roland, Rony et Etienne à genoux)

Sur le terrain

<u>Listes des espèces de mollusques terrestres et dulcicoles récoltées le 21/09/2013 sur le site du « Six périer-Chenoit » à Souvret</u> (déterminations : Marc Alexandre, Roger Wiliquet, Rony Maes, Etienne Meuleman)

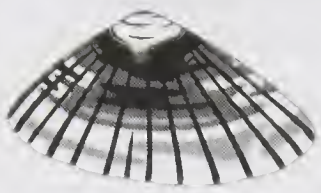
Nom latin	Nom vernaculaire
Arion hortensis (Férussac, 1819)	Arion des jardins
Arion rufus (Linnaeus, 1758)	Grande limace rouge
Balea biplicata (Montagu, 1803)	Clausilie à deux plis
Carychium tridentatum (Risso, 1826)	Auriculette commune
Cepaea hortensis (Müller, 1774)	Escargot des jardins
Cochlicopa lubrica (Müller, 1774)	Bulime brillante
Cornu aspersum (Müller, 1774)	Hélice chagrinée
Deroceras panorminatum (Lessona & Pollonera, 1882)	
Discus rotundatus (Müller, 1774)	Hélice bouton
Merdigera obscura (Müller, 1774)	Bulime obscur
Monacha cantiana (Montagu, 1803)	Hélice du Kent
Monachoides incarnatus (Müller, 1774)	Moine des bois
Oxychilus cellarius (Müller, 1774)	Zonite des caves
Oxychilus draparnaudi (Beck, 1837)	Grand zonite
Oxyloma elegans (Risso, 1826)	Ambrette élégante
Radix balthica (Linnaeus, 1758)	Limnée ovale
Succinea putris (Linnaeus, 1758)	Ambrette amphibie
Trichia hispida (Linnaeus, 1758)	Hélice veloutée
Vallonia pulchella (Müller, 1774)	Vallonie mignonne

Deroceras panorminatum

Balea biplicata
À l'abri dans un reste de coquille de ***Cepaea hortensis***

Monacha cantiana

L'équipe en pleine recherche



L'écho des réunions

Claude VILVENS

Réunion du 7 septembre 2013 (CV et RH) → **Tout le monde : L'atelier Posters de la SBM**

On connaît les posters édités par la SBM : au nombre de 3, ils montrent respectivement les Terrestres de Wallonie, les Dulcicoles de Wallonie et les Clausiliidae du monde entier.

Ces posters sont très appréciés des naturalistes et constituent pour la SBM une belle carte de visite. Aussi, nous avons décidé d'en créer de nouveaux, notamment "Gastéropodes du monde entier" et "Bivalves du monde entier"et "Mollusques de Méditerranée".

Pour construire ces posters, nous avons travaillé en "live" : nos membres avaient apporté certaines de leurs meilleures photos de coquilles correspondant aux thèmes cités (bien sûr, des photos personnelles – pas des photos d'Internet protégées par copyright ;-) !).

Nous avons alors construit construirons sur nos portables raccordés à un projecteur les posters souhaités. Un bon moyen de combiner connaissances et design ;-) ! En fait, nous nous sommes tellement passionnés pour le sujet que nous sommes loin d'avoir terminé et qu'il est déjà prévu de recommencer ☺ !

<u>Les posters existants de la SBM</u> : format A3, plastifiés **– 5.00 EUR + port.**

Renseignements : Etienne Meuleman - **e.meuleman@skynet.be**

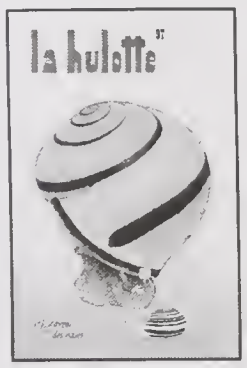
Quelques nouvelles publications

Claude VILVENS & Roland SCAILLET

La hulotte :

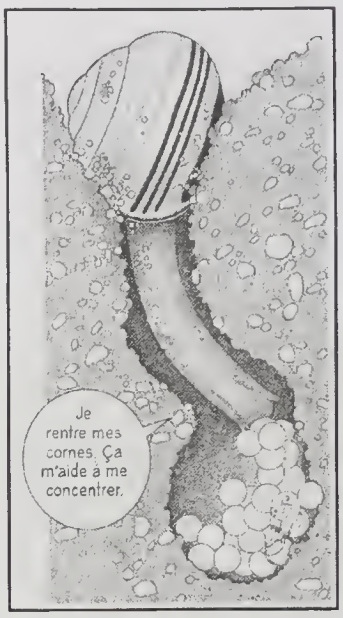
L'escargot des haies – tome II

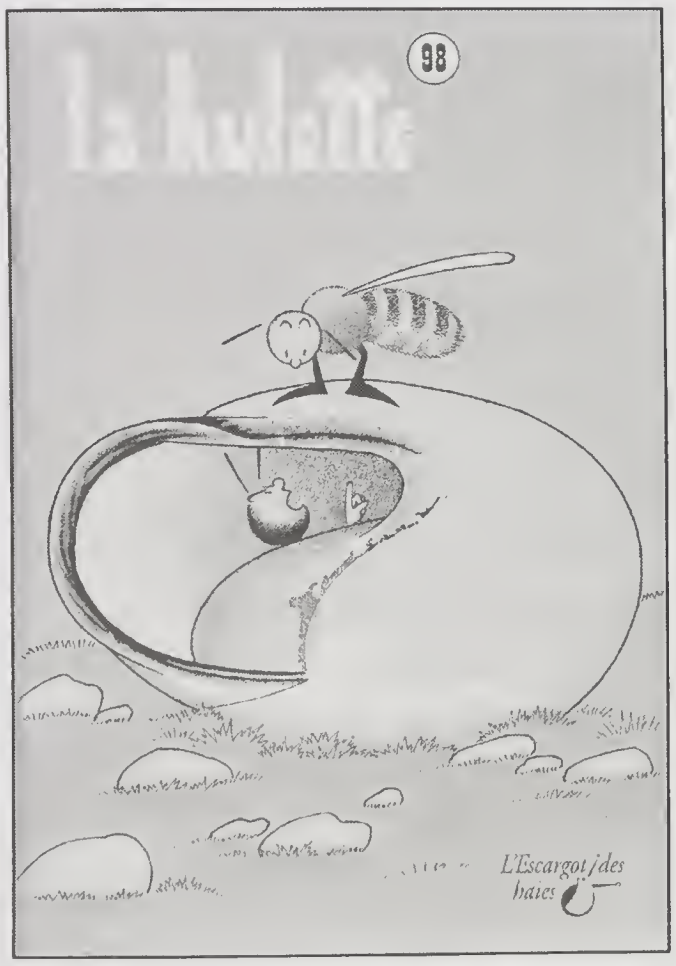
pp. 1-40, très nombreux dessins et photos NB, format A5 2013 http://www.lahulotte.fr/ **Prix**: +/- 6.00 EUR	Egalement en vente en ligne à la Maison liégeoise de l'environnement (http://www.boutique-verte.be ou http://www.natagora.org/boutique-verte/)



Je vous ais déjà parlé de cette sympathique revue "La Hulotte", dont le but très didactique est de faire découvrir toutes les facettes de la nature avec des dossiers extrêmement fouillés. A l'époque (Novapex/Société 13(3), 10 octobre 2012), je vous présentais le fascicule consacré à *Cepaea nemoralis*, l'escargot des bois – oups, pardon : on dit à présent "escargot des haies". On y apprenait plein de choses sur cet escargot si familier, avec des informations parfois inconnues même d'un malacologue chevronné.

Un prochain numéro était annoncé, et sur le même sujet. Le voici donc et cela continue avec toute une série d'informations intéressantes :

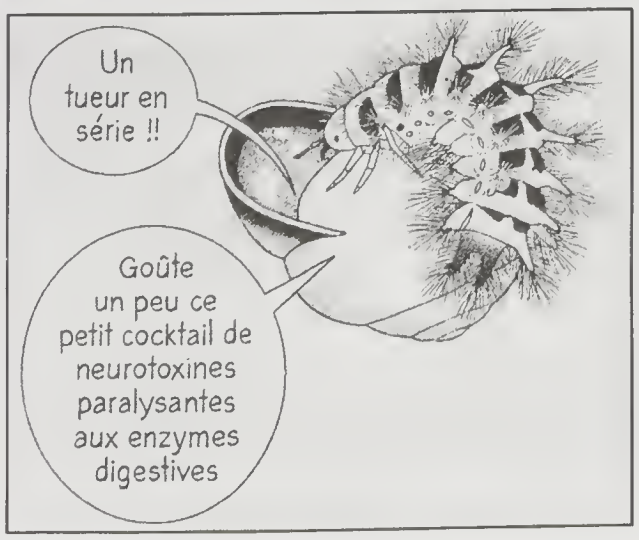


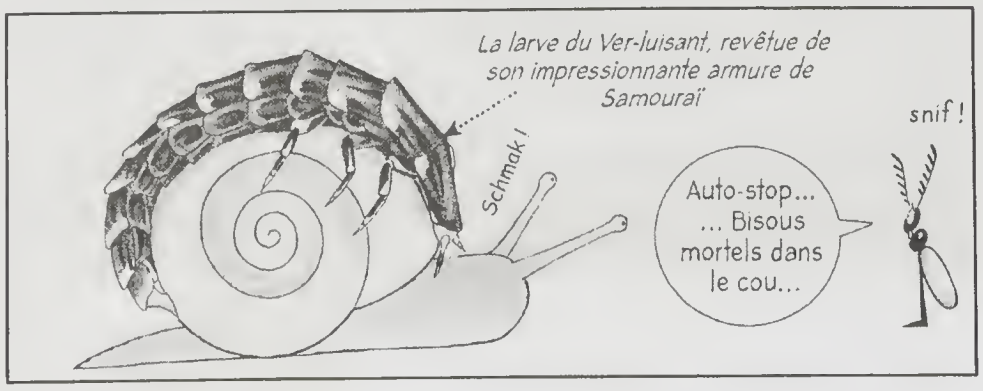


- ♦ d'abord, tous les détails sur la reproduction : dards (savez-vous vraiment à quoi il sert ?), accouplements, ponte, vie des jeunes, développement;
- ♦ ensuite (presque la moitié du fascicule), tout ce que l'on peut dire des prédateurs de notre escargot : la grive, bien sûr, mais aussi le Silphe noir, le Drile, le ver-luisant, …
- ♦ pour continuer, la stratégie des abeilles solitaires (les Osmies) qui utilisent les coquilles vides pour y placer leur ponte (très élaboré !)
- ♦ enfin, l'hibernation et la perforation des roches calcaires pour y creuser des galeries servant d'abri.

Vous l'aurez compris, le complément indispensable au 1er volume (qui est toujours disponible) !

Claude Vilvens

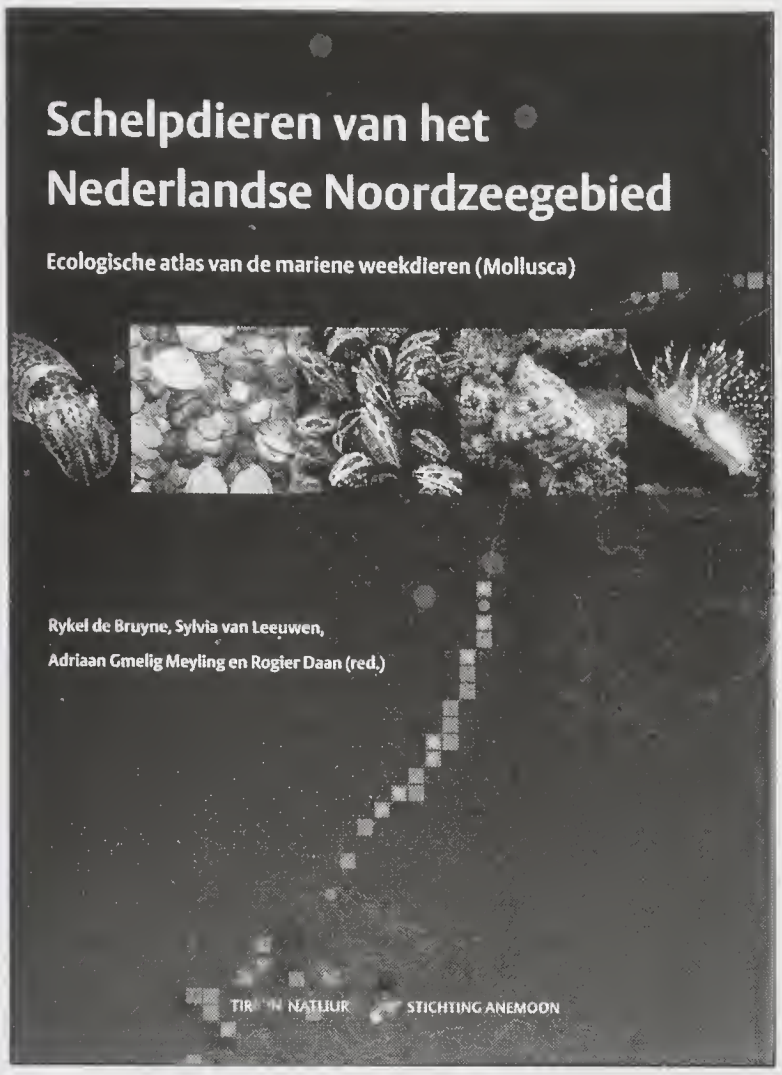




Schelpdieren van het Nederlandse Noordzeegebied
Ecologische atlas van de mariene weekdieren (Mollusca)

par **Rykel de Bruyne - Sylvia van Leeuwen - Adriaan Gmelig Meyling - Rogier Daan**

414 pages **Editeur** : Tirion Natuur - Stichting Anemoon 2013	**Prix :** 49.95 EUR

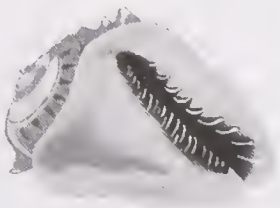


Cet atlas des mollusques marins de la Mer du Nord (limitée à la zone économique exclusive des Pays-Bas - 57.000 km²) est un ouvrage atypique qui fera la joie des malacologues dont le centre d'intérêt dépasse la simple passion de collecter des coquilles de mollusques.

Il s'agit certes d'un atlas rassemblant les mollusques par groupes et sous-groupes zoologiques (Caudofoveata, Polyplacophora, Bivalvia, Gastropoda, Gastropoda Nudibranchia, Scaphopoda et Cephalopoda). Cependant l'originalité de cet opus consiste dans le fait que chaque espèce (parmi 254) est décrite tant au niveau conchyliologique et/ou anatomique qu'au niveau de son écologie. Ceci englobe son habitat, son mode de reproduction, ses habitudes de nutrition, ses relations avec le milieu, ses relations interspécifiques avec des espèces d'autres phyla, son évolution des populations et toute information spécifique disponible à son sujet. Mention est faite des espèces proches avec lesquelles éviter la confusion. La distribution des espèces se matérialise sur une carte spécifique à chacune d'elles et l'iconographie illustre les coquilles (lorsque le mollusque en est pourvu) et les individus vivants évoluant in situ. L'ouvrage se termine par un index (genre - espèce - nom vernaculaire en Néerlandais) et par une bibliographie classée par famille.

Le texte est écrit en Néerlandais. Le livre est de belle facture avec couverture cartonnée. Avis aux amateurs intéressés par la biologie des mollusques à qui je souhaite bonne lecture et très souvent bonnes découvertes…

Roland Scaillet



Nous avons reçu

Etienne MEULEMAN

LES NATURALISTES DE LA HAUTE LESSE

(Belgique)
N°272, juillet – août 2013

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2012

MalaCo

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Gargominy O., Ripken T.E.J. 2011. Une collection de référence pour la malacofaune terrestre de France. *MalaCo*, Hors Série n°1 : 1-108.

Gargominy O., Neubert E. 2011. Identifier les Clausilies de France. *MalaCo*, Hors Série n°1 : 109-122.

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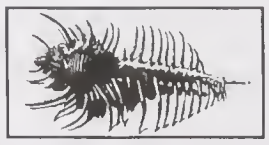

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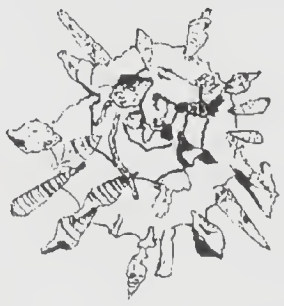

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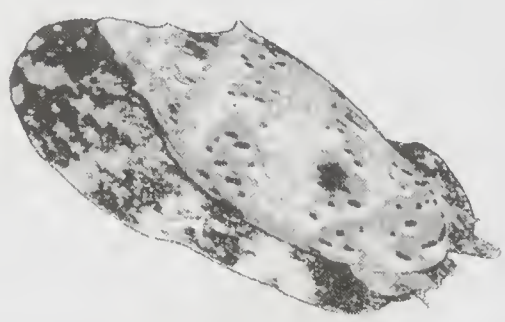

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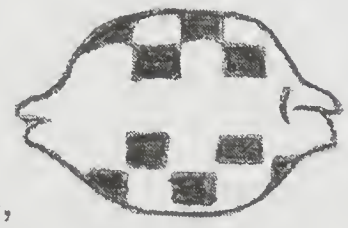

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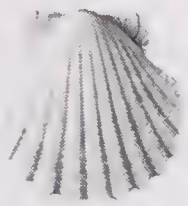

Grandes marées de l'année 2014

Christiane DELONGUEVILLE et Roland SCAILLET

- Enfin une bonne année avec des marées de 115 en mars et en septembre. En février, août et octobre, les marées présenteront également de beaux coefficients supérieurs à 110. Voilà de quoi nous réjouir !

Coefficients (> 100) des pleines mers à Brest

(Les marées basses correspondantes sont donc particulièrement intéressantes à prospecter.)

Janvier	Mercredi 1	(96) - 100
	Jeudi 2	104 - 107
	Vendredi 3	108 - 108
	Samedi 4	106 - 103
	Jeudi 30	(95) - 101
	Vendredi 31	107 - 111

Février	Samedi 1	113 - 114
	Dimanche 2	113 - 110
	Lundi 3	106 - 101
	Vendredi 28	(95) - 102

Mars	Samedi 1	108 - 112
	Dimanche 2	114 - 115
	Lundi 3	114 - 112
	Mardi 4	108 - 102
	Dimanche 30	104 - 107
	Lundi 31	109 - 109

Avril	Mardi 1	108 - 106
	Mercredi 2	102 - (98)

Mai	-	-

Juin	Samedi 14	(98) - 100
	Dimanche 15	100 - 99

Juillet	Dimanche 13	101 - 105
	Lundi 14	106 - 107
	Mardi 15	106 - 104
	Mercredi 16	101- (96)

Août	Dimanche 10	(95) - 101
	Lundi 11	106 - 110
	Mardi 12	112 - 113
	Mercredi 13	112 - 110
	Jeudi 14	106 - 101

Septembre	Lundi 8	(97) - 104
	Mardi 9	109 - 113
	Mercredi 10	115 - 115
	Jeudi 11	114 - 111
	Vendredi 12	106 - 100

Octobre	Mardi 7	(96) - 102
	Mercredi 8	106 - 109
	Jeudi 9	111 - 111
	Vendredi 10	109 - 106
	Samedi 11	102 - (96)

Novembre	Jeudi 6	(98) - 100
	Vendredi 7	101 - 101
	Samedi 8	100 - (98)

Décembre	-	-

Conseils pour une marée réussie et soucieuse de l'environnement : Remettez toujours les pierres déplacées en bon ordre. Observez, photographiez et n'échantillonnez que le strict nécessaire. Soyez prudents et renseignez-vous sur les heures des marées à l'endroit où vous vous trouvez.

REFERENCE :

Annuaire des Marées pour 2014 - Ports de France - Métropole - Tome 1 - SHOM (Service Hydrographique et Océanographique de la Marine) - *Paris - 256 p.*

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